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ABSTRACT

This book contains a descriptive listing of 219 exemplary programs and practices existing nationally that involve the sharing concept between postsecondary occupational education and industry. Its purpose is to identify models and guidelines for sharing facilities, equipment, materials, and personnel for mutual educational and financial benefit. The list of 219 programs is organized by state, with the colleges having exemplary programs within each state listed in alphabetical order. Name and position of contact person(s) and a brief description of the exemplary program or practice are provided. Forty-eight of these programs and practices are highlighted with fuller descriptions, containing information on the activity, implementation procedures, contributions by industry and college, benefits to industry and college, and critical elements for success. They are organized by type of activity: (1) apprenticeship training, (2) Comprehensive Employment and Training Act programs, (3) community-wide collaboration, (4) community-based education, (5) contract services for industry, (6) cooperative education and field experiences, (7) economic development services, (8) faculty "return to industry" programs, (9) program development sharing, and (10) specialized programs. Guidelines for industry-education cooperation are presented. Appendixes include a report of the needs-sensing workshop that identified this research and development topic, the survey questionnaire that provided information for this book, and a program index. (YLB)

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Research and Development Series No. 203

SHARING RESOURCES:
POSTSECONDARY EDUCATION AND INDUSTRY COOPERATION

written by

Catharine P. Warmbrod
Jon J. Persavich
David L'Angelle

The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

1981

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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For further information contact:

The Program Information Office
The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

Telephone: (614) 486-3655 or (800) 848-4815
Cable: CTVOCEDOSU/Columbus, Ohio

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FOREWORD

With the scarcity of funds available for education and the increased demands upon postsecondary occupational education to serve new and more diverse populations, it is important that colleges maximize use of their resources through collaborative activities with business, industry, labor, and government. The continual great changes in technology require that industry and education work together to prepare, retrain, and update potential and present employees.

This book will enable colleges to expand their cooperative efforts with industry by discovering the exemplary practices of other colleges and applying those ideas that are appropriate for their own institutions. The national listing of exemplary programs, the highlighted descriptions, and the guidelines for industry–education cooperation will facilitate doing so.

The contributions of the members of the project's Technical Advisory Panel at the Needs-Sensing Workshop and in reviewing this book are greatly appreciated. These persons are Dr. John Grede, City Colleges of Chicago; Dr. Warren Groff, North Central Technical College; Dr. Nila Hibdon, Kansas City Metropolitan Community Colleges; Dr. James Hoerner, Virginia Polytechnical Institute and State University; Mr. James Horton, North Dakota State School of Science; Mr. Jack Liles, Linn-Benton Community College; Dr. Jean Netherton, Northern Virginia Community College; Ms. Connie Sutton, American Association of Community and Junior Colleges; Dr. Fred Wellman, Illinois Community College Board; and Mr. Charles Whitehead, State Technical Institute at Memphis.

Appreciation is also expressed to Catharine Warmbrod, Postsecondary Occupational Education Project Director; to other National Center project staff; and to Nancy Chism and Brenda Sessley, consulting editors, whose contributions to the project are reflected in this book.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

PREFACE

This book contains information provided by community and technical colleges across the country in response to our request for data on exemplary programs of collaboration with industry. The content is designed to help other colleges expand their cooperative practices with industry for their mutual educational and financial benefit. The focus is on the sharing of facilities, equipment, materials, and personnel.

The colleges with exemplary programs provided information on what was being contributed by the industry and the college, the implementation procedures, the benefits to the involved institutions, and the critical elements for success. A national descriptive listing of exemplary programs organized alphabetically by state is presented. The programs selected to be highlighted with fuller descriptions are arranged in the following categories: apprenticeship training, CETA programs, community-wide collaboration, community-based education, contract services for industry, cooperative education and field experiences, economic development services, faculty "return to industry" programs, program development sharing, and specialized programs.

It is hoped that the book will foster further industry–education cooperation and in so doing maximize the use of resources and improve the educational process.

Catharine P. Warmbrod
Project Director
Postsecondary Occupational Education Project

EXECUTIVE SUMMARY

This book was prepared to help identify what is occurring across the country in postsecondary occupational education and industry collaboration. Its purpose is to identify models and guidelines for postsecondary occupational education and industry for sharing facilities, equipment, materials, and personnel for their mutual educational and financial benefit. The book contains a descriptive listing of 219 exemplary programs and practices gathered from a national survey, 48 of which are described in fuller detail. The complete list of programs is organized alphabetically by state, and the highlighted programs are arranged by type of activity. The practitioners of the exemplary programs identified critical elements for success. From these, guidelines for industry-education cooperation have been developed.

CHAPTER 1
INTRODUCTION

The declining number of traditional-age students, the effects of inflation, and the impact of rapidly changing technologies have made it imperative for postsecondary occupational education and industry* to maximize their resources through sharing. By sharing facilities, equipment, materials, and personnel to provide education and training for prospective and present workers, more can be accomplished in a time of diminishing resources.

Both education and industry benefit from their collaborative efforts. Benefits to industry include a source of potential employees trained to its needs, cost-effective training for present employees, and economical human resource development.

Benefits to education contribute to both the institution and the students. As a result of cooperation and sharing by education and industry, students are provided with up-to-date training, experiences to relate theory and practice, and often, job opportunities. Educational institutions benefit by achieving improved and updated instructional programs, instructors who are kept current on state-of-the-art practices, and financial and other resource support.

Purpose

Postsecondary occupational education institutions/districts and industry have increasingly recognized the mutual benefits of sharing resources to provide training programs. It is likely that more sharing efforts of this nature will develop in the future. Fortunately, much experience has been gained on how to successfully establish and operate resource sharing programs, but such information is not available in the literature.

The purpose of this project was to: (1) identify programs and practices involving the sharing concept between postsecondary occupational education and industry, and (2) produce a book that could be used as a resource for ideas and to identify contact persons/organizations who are experienced in establishing and operating model or exemplary resource sharing programs.

Project Producing Book

This book is an outcome of the Postsecondary Occupational Education Project at the National Center for Research in Vocational Education at The Ohio State University. To identify a topic addressing a priority postsecondary occupational education need, the Project conducted a Needs-Sensing Workshop. Ten leaders in postsecondary education from across the country were selected to

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* When the term industry is used, it refers to business, industry, labor, and government organizations and agencies, including profit, nonprofit, and voluntary enterprises.

participate in the workshop and serve on the Project's Technical Advisory Panel (see Appendix A). The workshop participants were charged with identifying priority postsecondary occupational education needs and then developing a list of research and development topics based on those needs. A book was then to be developed by Project staff with its subject based on one or two of these priority research and development topics.

The full report of the Needs-Sensing Workshop for Postsecondary Occupational Education is in Appendix A.

The subject selected for the book, models of postsecondary occupational education and industry cooperation for educational and financial benefits, was developed from the combination of two complementary topics, one under the heading of Linkages/Articulation and one under the heading Fiscal/Administrative Services. These two research and development topics identified by the panel are as follows:

1. Research, models, and state-of-the-art studies dealing with linkages and interfacing of education with business, industry, labor, and government
2. Research and models for coping with diminishing resources for the acquisition of (a) facilities, (b) equipment, (c) materials, and (d) personnel

The Project drew upon the Advisory Panel's work by directing its efforts toward accomplishment of two objectives relating to the selected topic. These objectives were —

1. to identify models and guidelines for postsecondary occupational education and industry for sharing facilities, equipment, materials, and personnel for their mutual educational and financial benefit;
2. to prepare a book to provide a resource for postsecondary institutions and industry as they expand their working relationships to meet educational needs and the problems of scarce resources.

Organization of the Book

This book contains a descriptive listing of 219 exemplary programs and practices existing nationally, 48 of which are highlighted with fuller descriptions. The complete list of 219 programs is organized by state, with the colleges having exemplary programs within each state listed in alphabetical order.

Each highlighted description contains information on the activity, implementation procedures, contributions by industry, contributions by the college, benefits to industry, benefits to the college, and critical elements for success. The highlighted descriptions are organized by type into the following cluster of activities: (1) Apprenticeship Training, (2) CETA Programs, (3) Community-wide Collaboration, (4) Community-based Education, (5) Contract Services for Industry, (6) Cooperative Education and Field Experiences, (7) Economic Development Services, (8) Faculty "Return to Industry" Programs, (9) Program Development Sharing, and (10) Specialized Programs.

CHAPTER 2
PROCEDURES

Literature Search

A literature search on the topic of postsecondary occupational education and industry collaboration was conducted, but little was found that focused specifically on this topic and much of what was identified was not current. A computerized search through ERIC was conducted, as well as a hand search.

It became clear that to gather current information on collaborative practices between postsecondary occupational education and industry, information would have to be obtained directly from the practitioners. The colleges that had cooperative relationships with industry in the sharing of facilities, equipment, materials, and personnel for their mutual educational and financial benefit needed to be identified with information on how this was done and the outcomes obtained.

Identifying and Surveying Colleges

Identification of Colleges by State Administrators

Toward this end, state administrators of community, junior, and technical colleges were contacted in all fifty states, asking them to nominate colleges in their states that had exemplary collaborative practices with industry. The list of state administrators of two-year colleges published in the latest edition of the American Association of Community and Junior Colleges' *Community, Junior, and Technical College Directory* was used. In some instances persons on this list forwarded our request to a person in another state agency who was in charge of vocational and technical programs, or it was forwarded to the new person occupying that office.

State administrators were sent nomination forms along with the letter describing the project. The list of the state administrators, the letter, and the nomination form are included in Appendix B. A few other colleges were identified by the project's Technical Panel and by references in the literature.

Four weeks after letters and nomination forms had been sent to state administrators, a follow-up phone call was made to those who had not responded. Forty-four states ultimately responded to our request and thirty-nine of those submitted nominations of colleges.

Surveying Colleges with Exemplary Programs

The nominated colleges were sent a letter and questionnaire under the joint auspices of the project and the National Postsecondary Alliance* and were asked to provide information about their programs. Descriptions were sought concerning the program or practice's activities, process, contributions by both industry and the college, the educational and financial benefits to each, and the critical elements for success. The focus was on the sharing of facilities, equipment, materials, and personnel. A copy of the letter and questionnaire are provided in Appendix B.

Follow-up phone calls were made to those colleges that had not responded four weeks after the initial letter and questionnaire were sent. Responses ultimately were received from 138 colleges, and many colleges submitted descriptions of more than one exemplary practice of collaboration with industry.

Based upon the information provided by each college, project staff wrote a very brief description of each submitted exemplary program or practice to be published in the National Listing of Exemplary Programs in this book. A total of 219 programs/practices are described.

Selecting Programs to be Highlighted

The questionnaires were then sorted into groups according to the exemplary practice or program. They clustered around the following areas of activity:

1. Apprenticeship training
2. CETA programs
3. Community-wide collaborations
4. Community-based education
5. Contract services for industry
6. Cooperative education and field experiences
7. Economic development services
8. Faculty "Return to Industry" programs
9. Program development sharing
10. Specialized programs

In each of these categories, four or five exemplary programs/practices were selected to be highlighted. Again, the focus was on cooperation between industry and education in sharing facilities, equipment, materials, and personnel for their mutual educational and financial benefit. The purpose of the highlighted descriptions is to provide information that would be helpful to other colleges in adopting or adapting the practice to their institutions. The programs selected reflect geographic diversity and different kinds and sizes of institutions. Efforts were made to include geographical representation across the United States, urban and rural institutions, and colleges of various sizes. A good range and variety of technical areas were included to meet a diversity of needs. The selected programs provide new ideas as well as exemplary models of some more basic practices.

In all of the above, project staff was dependent upon the information supplied by the college on the questionnaire. Project funding and time did not allow project staff to visit programs.

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* The National Postsecondary Alliance was established by the National Center for Research in Vocational Education in 1979. Thirty-five postsecondary institutions/districts from twenty-one states are members of the Alliance.

CHAPTER 3
EXEMPLARY PROGRAMS

Introduction

Overview of Programs Submitted

The returned questionnaires from all over the country revealed that exemplary practices of industry and education cooperation in sharing resources are prevalent and diverse. Descriptions ranged from postsecondary occupational education occurring on fishing trawlers in the Gulf of Mexico to a power plant in Montana, and to the distinctive technologies of saddle making and stringed musical instrument repair within one institution. Diversity is caused by the spread of employer needs, both nationally and within each institution's service area. Facilities, equipment, materials, and personnel are being shared to the mutual educational and financial benefit of industry and education.

One hundred thirty-eight colleges from thirty-nine states submitted descriptions of programs they considered exemplary. The information provided in this book is dependent upon the data supplied by the colleges. Project funds did not allow on-site visits to gather more in-depth information. See chapter 2 for procedures used.

Listing of programs. The next section of this chapter contains the National Listing of Exemplary Programs, which provides an identifying description of the program and the name and address of the college and contact person from whom more information can be obtained. This listing is arranged alphabetically by state so that readers can see what kind of programs and practices are occurring in their area. Notations indicate whether the program is highlighted with more information in the next section of the chapter.

Highlighted programs. The last section of chapter 3 provides the Descriptions of Model Exemplary Programs. The word *model* is used in the sense of an illustrative example. These are the forty-eight programs or practices selected to be highlighted with fuller descriptions. Again, the name, address, and phone number of the college and contact person are furnished so that readers can make contact.

These forty-eight highlighted programs are organized around types of collaborative practices. Following are explanatory comments about each category:

1. *Apprenticeship Training* — These programs involved cooperation and sharing among a company or industry, a labor union, and the college toward the common goal of preparing apprentices.
2. *CETA Programs* — The major focus of these programs is the training of CETA participants. Usually they involve the collaboration of the CETA prime sponsor, private industry, and the college. Many also involve community councils and other community organizations and agencies.

3. *Community-wide Collaboration* — Programs in this category involve the collaboration of numerous organizations and institutions in the community with the college to provide training and educational services.

4. *Community-based Education* — The dominant feature of these programs is that they are based out in the community, using the community as a resource.

5. *Contract Services for Industry* — In each of these collaborations, there is a contractual arrangement whereby industry contracts with the college for educational services, which may be held either in-plant or on the campus.

6. *Cooperative Education and Field Experiences* — Business and industry provide employment or field experience in the students' field of study while they are enrolled in college and receiving job-oriented instruction. Supervision is provided by both industry and the college, and college credits are earned.

7. *Economic Development Services* — A state or city economic development agency, new or expanding industry, and the college cooperate to provide a pool of trained persons to fill employers' needs. These programs are designed to attract new industry to the community or help present industry expand, so that new jobs are created in the community.

8. *Faculty "Return to Industry" Programs* — The sharing in these personnel exchange programs enables college personnel to update and upgrade their technical competencies by returning to industry. In exchange, industry personnel are often brought to the college.

9. *Program Development Sharing* — These programs involve a sharing of resources by industry with a college to start and keep current a technical program in the college. Industry may provide its expertise, equipment, and materials.

10. *Specialized Programs* — These creative collaborative practices take on some new and different forms.

NATIONAL LISTING

OF

EXEMPLARY PROGRAMS

ALABAMA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Alabama Technical College 1001 E. Broad St. Gadsden, AL 35999 (205) 547-5451	Bryan Stone Industrial Coordinator	Sharing facilities, equipment, materials, and personnel by industry and the college to train apprentices in the electricity, pipefitting, and millwright crafts.
	Bryan Stone Industrial Coordinator	A competency-based program developed jointly by the college and industry in cooperation with the U.S. Department of Labor to train apprentices in the Industrial Electrical Occupational area. The school and the industry cooperatively operate a self-paced, individualized instructional program that prepares industrial electrical apprentices in the classroom and industrial setting. *Highlighted, p. 47*
Calhoun Community College P.O. Box 2216 Highway 31, North Decatur, AL 35602 (205) 353-3102	Thomas A. McLeod Director Center for Industrial Development	The Center for Industrial Development at the college responds to technical and managerial training needs of business and industry that cannot be satisfied by the traditional college programs and schedules offered by the institution. Each program or course is personalized to a company's specific need. The Center utilizes all equipment, space, and regular faculty as required to conduct training programs. On occasion local industry will loan or contribute equipment and materials for use in a training program. In-plant programs are conducted utilizing a company's available equipment, space, and materials. Local industries encourage their professional, technical, and skilled employees to apply for part-time instructor positions at the college. Government agencies have sometimes made personnel, equipment, space, and materials available for a specific training need. *Highlighted, p. 80*
Carver State Technical Institute 414 Stanton St. Mobile, AL 36617 (205) 473-8692	Sadie J. Armstead Dean of Student Personnel Affairs	A joint effort with food service employers in the area to upgrade the skills of food service employees.
J. F. Drake State Technical College 3421 Meridan St. N. Huntsville, AL 35811 (205) 539-8161	Drexel E. Boothe Dean of Students	A cooperative education program with industry through which students alternate quarterly between work and school. *Highlighted, p. 89*
Jefferson State Junior College 2601 Carson Rd. Birmingham, AL 35215 (205) 853-1200	Dwight Giles Coordinator	Providing educational and support services for the American Institute of Banking (AIB).

ARIZONA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Arizona Western College P.O. Box 929 Yuma, AZ 85364 (602) 726-1000	Fern Drysdale Director of Community Services	A collaborative effort with the American Institute of Banking (AIB).
	Al Daniels or Bob Wallace Coordinator of Cooperative Education	Extensive cooperative education program with federal agencies and organizations. *Highlighted, p. 88*
	Esther C. Howe Chairman Division of Nursing	Collaborative arrangements with area health facilities in sharing facilities, equipment, and materials for the college's Associate Degree Nursing Program.
Cochise Community College Douglas, AZ 85607 (602) 364-7943	Ellen Saxe Division Chairman Nursing/Health Technology	A contractual arrangement between the college and area hospitals and community agencies to provide clinical experiences for nursing students. This arrangement provides diverse experiences for students in a rural community. *Highlighted, p. 65*
Mohave Community College 1971 Jagerson Ave. Kingman, AZ 86401 (602) 757-4331	Hal Byfield Dean Vocational Continuing Education	Sharing facilities, equipment, personnel, and materials by industry and the college to prepare people for either employment or increased competency in tool-room trades.
MARICOPA COUNTY COMMUNITY COLLEGE DISTRICT		
Glendale Community College 6000 W. Olive Ave. Glendale, AZ 85302 (602) 934-2211	Harry Vesely Occupational Dean	A sharing of equipment, materials, and personnel by the local chapter of the American Society for Quality Control and the college to provide an associate degree program in Quality Control.
Phoenix College 1202 W. Thomas Rd. Phoenix, AZ 85013 (602) 264-2492	Ralph Norton Associate Dean of Instruction Occupational Education	A collaborative program to provide continuing education for nurses.
Rio Salado Community College 102 N. 40th St. Phoenix, AZ 85034 (602) 275-7881	Armando Gonzales Associate Dean of Education	The Industrial/Apprentice Education Program that involves in-plant instruction. *Highlighted, p. 51*

ARKANSAS

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Phillips County Community College Box 785 Helena, AR 72342 (501) 338-6474	John Baker Dean Occupational Education	A training program in welding technology in cooperation with industry. Funding, program operation, and supervision are shared by industry and the college with partial funding through CETA. *Highlighted, p. 56*
	John Baker Chairman T & I Department	Industry and the college share facilities, equipment, and personnel to offer an airframe and power plant mechanics program. The cooperative effort also involves the use of an existing hangar building provided by the Local Airport Commission for classroom and lab facilities.

CALIFORNIA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Cerritos College 11110 E. Alondra Blvd. Norwalk, CA 90650 (213) 860-2451	Richard E. Whiteman Dean of Vocational Education	Students receive training in basic and advanced drafting design and subsequent employment with industry. The college, industry, Employment Development Department, and CETA share in program operation, facilities, instruction, and placement of students. *Highlighted, p. 58*
El Camino College 16007 Crenshaw Blvd. Torrance, CA 90506 (213) 532-3670	Joseph S. Dzida Dean Industrial & Technical	A cooperative career-development training effort in electronics in which students are provided entry level skills with subsequent placement on the job. In addition, retraining opportunities are provided for those students with inadequate or obsolete skills. Training facilities, equipment, and supervision are equally shared between college and industry.
Fresno City College 1101 University Ave. Fresno, CA 93741 (209) 442-4600	Gordon Ogden Director Nursing Education	A cooperative CETA training effort for Licensed Vocational Nurse (LVN) students in the Registered Nursing program. Hospital facilities and staff are shared by the college and county-operated medical center.

COLORADO

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Colorado Mountain College 3000 Road 114 Glenwood Springs, CO 81601 (303) 945-8691	Harv D. Telinde Director Occupational Studies	A program in maintenance mechanics and management sponsored by the college and the mining industry.
Colorado Mountain College **East Campus** Leadville, CO 80461 (303) 486-2015	Albert H. Smale Program Coordinator	A program in initial and upgrade training in mine safety and health safety sponsored by the college and the mining industry.
Community College of Denver **Red Rocks Campus** 12600 W. 6th Ave. Golden, CO 80401 (303) 988-6160	Barry Noonan Dean of Instruction	Sharing of facilities, funds, equipment, and materials to support career programs in chemical operating, machine tools, word processing, and welding pipefitting. The programs are sponsored by a consortium of diverse agencies at the federal, state, and local levels along with private industries. *Highlighted, p. 66*
Northeastern Junior College 100 College Dr. Sterling, CO 80751 (303) 522-6600	Dick Gritz Dean of Community Services	A cooperative education program with industry in a variety of occupational areas. The program enables students to have access to equipment and learning experiences that could not be provided in the classroom.
Otero Junior College La Junta, CO 81050 (303) 384-4443	Jim Litle Dean of Occupational Education	A sharing of facilities, equipment, and personnel by industry, college, and government agencies to provide a program of instruction in diesel truck driving.
Pikes Peak Community College 5675 S. Academy Blvd. Colorado Springs, CO 80906 (303) 576-7711	Paul D. Doray Supervisor Adult, Manpower, and Community Service Programs	A cooperative effort with a major industry to train electronics technicians. This program offers employees in the industry on-the-job training in electronics and ancillary courses at the community college to complete the associate degree requirements. The college and industry share in the operation, cost, and supervision of the program while instructional standards are reviewed by the Colorado State Board for Community Colleges and Occupational Education.

DELAWARE

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Delaware Technical & Community College **Wilmington Campus** 333 Shipley St. Wilmington, DE 19801 (302) 571-2190	Jean Thomas Dean of Instruction	Providing on-the-job training experiences for engineering and data processing college instructors during the summer months. This cooperative effort ensures highly trained instructors, more relevant instructional content, and better prepared graduates for the industry.

FLORIDA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Miami-Dade Community College District Administration 11011 S. W. 104 St. Miami, FL 33176 (305) 596-1345	Darwin E. Gearhart Coordinator Funeral Service Education	Sharing of facilities, equipment, materials, and personnel by industry and the college for the training of funeral directors and embalmers.
Santa Fe Community College 3000 NW 83rd St. Gainesville, FL 32602 (904) 377-5161	Leon Ellis Director Business Education	An economic development service to train employees for a major insurance company locating in the area. A state Industry Service Training grant and sharing between the industry and the college provide trained personnel for this industry. *Highlighted, p. 97*
	Jack Fuller Dean of Vocational Education	Providing upgrade training in electronics for employees of a major industry. The program, which is sponsored by the company, is conducted on-site by the college, and the employees enroll in programs in electronic technology depending on their career development needs.
	Jack Fuller Dean of Vocational Education	A cooperative effort with a major utilities department to provide training in power plant operations. The college and industry share instructional personnel, materials, and equipment, to meet the needs of the industry more adequately. Articulation of the training received in the program with other technical curricula enhances the trainee's opportunity to pursue an associate in science degree.

GEORGIA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Bainbridge Junior College U.S. Highway 84, East Bainbridge, GA 31717 (912) 246-6245	Robert U. Coker Chairman Division of Vocational Education	A joint effort between the college and a local industry to provide electrical and mechanical maintenance apprenticeship training. While the college deals with the theoretical concepts, the industry assists the student with the application of the concepts in the industrial environment. *Highlighted, p. 49*
Brunswick Junior College Altama at Fourth Brunswick, GA 31520 (912) 264-7201	Lamar Halloway Chairman Vocational-Technical Division	Sharing equipment, materials, and facilities with two local industries to support a program in pipe welding and fitting.

GEORGIA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Dalton Junior College P.O. Box 2168 Dalton, GA 30720 (404) 278-3113	Larry Little Chairperson Division of Vocational-Technical Education	A collaborative arrangement to provide junior field service technicians in minicomputer technology. This program is sponsored by a major digital equipment company, two state agencies, and a college that cooperate in providing facilities, equipment, instructional materials, counseling, recruitment, teacher training, and funding. *Highlighted, p. 67*

HAWAII

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Honolulu Community College 874 Dillingham Blvd. Honolulu, HI 96817 (808) 845-9211	Karen Kelly Assistant Dean of Instruction Human Services Department	A community-based Child Development Program that focuses on the skills and knowledge necessary to work with preschool children. An extensive sharing of facilities, equipment, materials, and personnel contribute to the relevancy of the students' laboratory and field experiences.

IDAHO

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Idaho State University, Vo-Tech Roy F. Christensen Building Pocatello, ID 83209 (208) 236-0211	Carl Burstedt Program Coordinator	An internship education program in which a school and local industry cooperatively provide students with an extensive eight to sixteen weeks of experience in an industrial setting in the field of drafting. The school and the industry contribute to the development of the curriculum and student experiences, while training is provided by the company.
	Art Clawson Supervisor Adult Basic Education	An extensive school/community cooperative effort to provide adult basic education programs at eight different locations in southeastern Idaho. A full range of programs are provided to students who wish to upgrade their basic skills or complete the high school equivalency examination. Sharing facilities, equipment, and personnel is essential to the success of the myriad of programs necessary to meet a variety of needs from a diverse population. *Highlighted, p. 73*
	Bob Simmons Chairman Metals Fabrication Department	Sharing of facilities and materials with three local industries to support a welding program.

IDAHO, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Idaho State University, Vo-Tech continued	Robert F. Crabtree Manager Evening Adult Education	Sharing of facilities, equipment, funds, and materials to support upgrade training in blueprint reading, electronics, and welding.
	Richard R. Davis Chairman Electro-technologies Department	Use of university facilities and "Industrial Advisory Boards" consisting of over thirty members who advise and counsel on programmatic efforts.
	Robert F. Crabtree Manager Adult Education	A program sponsored by the university and mining industry that provides training in safe work habits and emergency first aid.
	Paul Todd Instructor Law Enforcement	A cooperative effort by the university, three local and state law enforcement agencies, and a community group to provide meaningful experiences to peace officer cadets.

ILLINOIS

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Black Hawk College East Campus P.O. Box 489 Kewanee, IL 61443 (309) 852-5671	Charles Warthen Dean of Instruction and Student Services	A local industry shares their data processing equipment to be used by the college for their computer science courses. The courses are taught in the industry's facilities by their data processing coordinator.
CITY COLLEGES OF CHICAGO **Chicago City-Wide College** 185 N. Wabash Ave. Chicago, IL 60601 (312) 977-2500	John Longstreet Data Processing Instructor	The data processing program through which industry and education share resources such as software, video courses, microprocessors, computer hardware, and instructors.
	John Thissen Dean	The Study Unlimited program provides videocassette courses to students in cooperation with the Chicago Public Library, Department of Corrections, Ft. Sheridan, and Burr Oak Library System. The cooperating institutions share study and storage space, videocassette players, television receivers, audiocassettes, print materials, and exams. The services of faculty members, counselors, librarians, and site coordinators are also shared. *Highlighted, p. 64*

ILLINOIS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
CITY COLLEGES OF CHICAGO, continued **Chicago City-Wide College** continued	Robert Chrismer Director Cooperative Education	The Cooperative Education program integrates classroom studies and work by placing students in planned and well supervised work experiences related to their major academic field. Employer supervisors in both private and public sectors provide on-the-job training to supplement and reinforce classroom learning. On-campus seminars led by qualified faculty help students analyze and set learning objectives for their work experiences. College credit is awarded.
	Jura Scharf Director of Programs	The Public Service Institute of the College provides education and training to employees of governmental agencies, either for improvement of needed job skills or for personal development. Classes are organized in close cooperation with the personnel and training division of the agencies and meet on site. In many cases materials are developed jointly by college faculty and agency training staff.
	Richard Twarek Director	An interinstitutional effort between major medical centers and hospitals in the Chicago area and Chicago City-Wide College that includes the Paramedic Program, Occupational Therapy Assistant Program, and Radiation Therapy Technology Program. Hospitals and medical centers provide their classrooms, offices, and laboratories for use by the college's faculty, students, and staff. The hospitals also provide clinical supervisors and professional faculty subject to reimbursement for professional and technical services. The college provides use of basic sciences and liberal arts faculty for educational purposes, as well as administrative support services from the college's Health Services Institute.
Loop College 64 E. Lake St. Chicago, IL 60601 (312) 269-8000	Dan Burrows Dean of Career Programs	The Off-Campus Program provides courses for employees that supplement their training and knowledge gained on the job. Some students have completed basic and advanced certificates while attending courses off campus, while others have upgraded their skills and advanced on jobs. The courses are taught in a wide variety of industries where classroom space and some equipment are provided. The college provides the instruction, course materials, and support services.
College of Lake County 19351 W. Washington St. Grayslake, IL 60030 (312) 223-6601	Steven S. Springer Director of Career Program Development	The sharing of college equipment and facilities and the use of industrial personnel for special skill courses in industrial skilled craft for apprenticeship training. The program was developed in conjunction with the County Industrial Opportunity Committee.

ILLINOIS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
College of Lake County continued	Jack Cote Dean Naval Training School	A contract with the U.S. Department of Defense to supply specific skills training for a major military facility. The programs are conducted by the college while the facilities and equipment are provided by the military.
	Steven S. Springer Director of Career Program Development	A collaborative arrangement between the college, local hospitals, and fire departments to provide emergency medical technician paramedic training to fire department personnel.
	Steven S. Springer Director of Career Program Development	A local union and the college cooperatively provide apprentice related instruction courses in bricklaying.
	Steven S. Springer Director of Career Program Development	A financial arrangement between the college and local industries to provide "in-district" tuition rates.
John Wood Community College 1919 N. 18th St. Quincy, IL 62301 (217) 224-6500	Paul R. Heath President	A unique method of providing comprehensive educational services, such as classroom instruction, counseling and placement services, administrative support, physical facilities, and libraries to meet a wide range of educational needs. Called the "common market" concept, the program enables the college to contract with other educational agencies and the business/industrial community to provide these educational services. For example, the Associate Degree Program in Broadcast Electronics Technology is provided by a private firm under the sponsorship of the college. Thus, the college uses community resources as a part of the educational delivery system, avoiding duplication of human and physical resources. *Highlighted, p. 71*
Kankakee Community College P.O. Box 888 River Rd. Kankakee, IL 60901 (815) 933-0345	Edwin P. Viglio, Jr. Director	Provides practical radiologic experiences in two local hospitals for students in a radiologic technology program.
	Sheila Sorrentino Director of Practical Nursing Program	Collaborative arrangements with community agencies to provide basic and skilled nursing care experiences to students in a nurse aide program.
	Janice Holmes Director of Nursing Associate Degree Program	A cooperative effort by the college and local hospital to provide clinical experiences for associate degree nursing students. The program operation and supervision is shared by the college and hospital.

ILLINOIS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Kankakee Community College continued	George F. Kreider Dean of Career Education	Providing specialized vocational training to employees of local industry. Facilities, equipment, and program supervision are shared.
	George F. Kreider Dean of Career Education	Sharing facilities, personnel, and equipment by industry and the college to train managerial and production line personnel in areas specific to the needs of the industry. In addition, a state educational agency, the Chamber of Commerce, and the college cooperatively provide educational guidance and direction.
Lakeland College St. Rte. 45 Mattoon, IL 61938 (217) 235-3131	Bill Rich Dean of Continuing Education	A program whereby industry and the college share facilities, equipment, and materials for "on-site" instruction in basic communications skills, technical skills, and occupational survival skills. The cooperative effort also includes developing, testing, and refining the modules of instruction for these skill areas.
Moraine Valley Community College 10900 So. 88th Ave. Palos Hills, IL 60465 (312) 974-4300	Robert M. Van Raes	A cooperative education program with local industries to provide instruction at the college and work experience on the job. Other programs that provide education and training support at the college for local industries in apprenticeship training, general staff development, or specific skill development.

INDIANA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Indiana Vocational Technical College 1440 E. 35th Ave. Gary, IN 46409 (219) 981-1111	A. G. Terzes Chairman Trade and Technical Division	Sharing of facilities, equipment, and materials to support training programs for motor inspection apprentices, millwrights, and welding apprentices. Funding, program operation, and supervision are cooperatively shared by the college, unions, and industry.
	George Shonske Assistant Chairperson Trade and Technical Division	Conducting associate degree fire science instructional programs on-site using equipment, materials, and facilities provided by a major city fire department.

IOWA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Indian Hills Community College Industrial Airport Ottumwa, IA 52501 (515) 682-8081	Stephen M. Poort Dean of Instruction	The Private Sector Improvement Project involving key industries, labor, and government entities to provide training in the areas of sheet metal, machine operating, and welding. The College, CETA, Sheet Metal Workers Local, and private industry collaborate to train and employ CETA students. *Highlighted, p. 55*

LOUISIANA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Delgado Community College 615 City Park Ave. New Orleans, LA 70119 (504) 483-4014	William M. Panter Coordinator	A cooperative effort by the college and industry to provide apprenticeship training in nine major trade areas. Program facilities, equipment, and materials are shared by the college and the industry. In addition, administration of the programs is shared by the college and joint apprenticeship committees.
	Susan Mallory Instructor Commercial Art Department	Major restoration of "storybook" figures in the city's small amusement park by the college's Commercial Art Department. The college provided the expertise and industry provided materials in this cooperative "good-will" gesture.
	Sylvia Dobard Director Cooperative Education	A cooperative education program with industry, through which students alternate between work and college. In addition, both the college and industry share facilities, equipment, materials, and personnel and also both plan the instructional experience for the students. *Highlighted, p. 91*
	Cole Reeves Department Head Education	An internship for students of an early childhood education program in an actual child care setting. This cooperative effort between the college and from three to eight day-care facilities each semester results in the sharing of facilities, equipment, and teaching and supervisory staff at private and federally funded facilities.
	E. Hayes Waller, Sr. Chairman Electronic Services Technology	Sharing tools, materials, and facilities by the college and a major telephone system to support a program in basic electricity and electronics.

LOUISIANA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Delgado Community College continued	Joel E. Massey Divisional Chairman of Engineering, Health & Occupational Technologies	A cooperative arrangement between the college and a local hospital to share facilities for teaching special components of the emergency medical technician course.
	Shirley N. Farrell Head Interior Design	Materials for the college's interior design laboratory are furnished by local designers and businesses.
	Joel E. Massey Divisional Chairman of Engineering, Health & Occupational Technologies	The use of a shipyard's machine shop, equipment, and materials in the college's machinist program.
	Joel E. Massey Divisional Chairman of Engineering, Health & Occupational Technologies	The use of facilities in a local hospital by the college to provide on-the-job hospital experiences to X-ray technology students.

MARYLAND

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Hagerstown Junior College 751 Robinwood Dr. Hagerstown, MD 21740 (301) 790-2800	Michael H. Parsons Dean of Instructional Affairs	The development of a program delivery system that emphasizes offering instructional programs in an industrial setting to meet the specific needs of the industry.
	Michael H. Parsons Dean of Instructional Affairs	A "Return to Industry" program that provides the opportunity for the college faculty to update and/or expand their skills and knowledge within their professions. To date, more than ten of the college's fourteen occupational programs have had a faculty member take part in the program. *Highlighted, p. 102*

MASSACHUSETTS

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Bunker Hill Community College New Rutherford Ave. Boston, MA 02129 (617) 241-8600	R. Brent Bonah Dean of Continuing Education	A degree program for electronic technicians offered cooperatively by the college and a major local firm. Facilities, funding, equipment, and responsibility for curriculum development and program administration are shared.

MASSACHUSETTS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Bunker Hill Community College continued	Mon O'Shea Assistant Dean The Open College	A comprehensive educational services program that offers community-based training with industry or community organizations in academic, occupational, and basic skills programs. The college and job related programs, some of which are offered for credit, are planned and administered jointly by the college, other educational institutions, and industry.

MICHIGAN

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Bay de Noc Community College Danforth Rd. U.S. 2 & 41 Escanaba, MI 49829 (906) 786-5802	Charlie L. Gold Director	Offering specialized career orientation, training, and personnel development in over twenty occupational areas, the college and industry cooperatively provide learning experiences on agreed-upon performance objectives. The college and industry share in facilities, equipment, personnel, administration, and supervision of the program. *Highlighted, p. 72*
Delta College University Center, MI 48710 (517) 686-9000	Arthur M. Leinberger Coordinator Automotive Service Education Program	Cooperation with local General Motors dealerships to provide educational experiences for selected students. The curriculum consists of five semesters, half of which are spent on campus and half off campus in dealership cooperative work experiences. Upon completing the program requirements, the students will have earned an associate degree.

MINNESOTA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Inver Hills Community College 8445 College Trail St. Paul, MN 55075 (612) 455-9621	Hope Isaacson Associate Dean of Instruction	The Business Aviation and Professional Pilot Associate Degree Program cooperatively offered with a private aviation firm. Technical and administrative supervision is provided by the firm and the college. *Highlighted, p. 116*

MISSISSIPPI

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Itawamba Junior College 653 Eason Blvd. Tupelo, MS 38801 (601) 862-3101	D. L. Wiygul Assistant Director	Collaborative arrangements with industry to provide in-plant and/or on-campus training for industries with specific needs. Facilities, equipment, and materials are shared.

MISSOURI

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Jefferson College Hilsboro, MO 63050 (314) 789-3951	Ray Walsh Dean of Vocational-Technical Education	A joint effort between the college and a local industry to provide inservice training in spot welding, TIG welding, and sheet metal layout and fabrication. Facilities, equipment, materials, program development, and supervision activities were shared.
Northeast Missouri State University 143 Violette Hall Kirksville, MO 63501 (816) 655-5121	Peter J. Sireno Director Career Program	Sharing of facilities, equipment, materials, and personnel to support programs designed to meet specific needs of the industry. Collaboration in program development takes place to determine specific needs.
State Fair Community College 1900 Clarendon Rd. Sedalia, MO 65301 (816) 826-7100	Ron Hutkin Dean of Vocational-Technical Education	A collaborative effort by the Missouri State Department of Education, Sedalia Department of Economic Development, industries, and the college to prepare trained workers for new and expanding industries. Pre-employment training, technical courses, and management and supervision courses are developed and taught for new and existing industries in the area.

MONTANA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Miles Community College 2715 Dickinson Miles City, MT 59301 (406) 232-3031	John Koch Director of Public Services	A cooperative arrangement to offer an associate degree in Power Plant Technology. The college and a major power company, in cooperation with the union local, State Board of Regents, and an industry-based advisory committee, shared in the development of an entry-level program relative to coal-fired electrical generation facilities. Program administration and supervision is shared by the college and industry. *Highlighted, p. 79*

NEW JERSEY

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Burlington County College Pemberton-Browns Mill Rd. Pemberton, NJ 08068 (609) 894-9311	John E. Sills Associate Dean	A joint development effort with industry resulting in a "customized" training program specific to marine architecture with emphasis on piping systems for ships. Equipment and materials were shared. Initial funding for the program was provided by the New Jersey State Department of Labor and Industry.

NEW JERSEY, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Cumberland County College Sherman Ave. & Orchard Rd. Vineland, NJ 08360 (609) 691-8600	Thomas A. Henry Assistant to the President	Incorporation of an existing associate degree program at the college and a training program in engine lathe operation and associated machine shop practices. The college offers related training and the industry provides on-the-job skill development. This program is registered through the state's Bureau of Apprenticeship Training as a part of the four-year industry apprenticeship training program. *Highlighted, p. 50*
Passaic County Community College College Blvd. Paterson, NJ 07503 (201) 279-5000	Morton Margules Director of Occupational Studies	A cooperative effort to provide industry with trained personnel at the entry skill level in machine tool technology. The Chamber of Commerce, the city's Department of Community Development, Private Industry Council, State Department of Labor, and other industries collaborated with the college in the development, coordination, and approval of a proposal for training. The proposal established needs, and identified the objectives, facilities, and equipment necessary to support the training. In addition, community groups and organizations assisted in the acquisition of equipment and publicity for the program.

NEW MEXICO

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Eastern New Mexico University—Roswell Box 6761 Roswell, NM 88201 (505) 347-5441	Martha Cress Director Nursing Education	Sharing facilities by five local health centers and the college to provide nursing students with clinical instruction and experiences. The centers and the college participate in planning appropriate student learning activities and schedules.
	Leslie V. Langston Chairman	A cooperative sharing of equipment, materials, personnel, and monetary resources to support the Petroleum Production Technology Program. *Highlighted, p. 109*
New Mexico State University — Alamogordo North Scenic Dr. Alamogordo, NM 88310 (505) 437-6860	Jim Cook Assistant Director	Sharing equipment and facilities by the university, a military organization, and a national manufacturing corporation to support a nondestructive evaluation program in machine tool technology. Funding is shared by CETA and the State Vocational Education Agency.
San Juan College 4601 College Blvd. Farmington, NM 87401 (505) 325-7556	Karl Zaffke Head of Student Services	A "Career Center" for students, faculty, industry and community members to find information on career planning and exploration, and to participate in aptitude testing. As an extension of this center, a mobile van is available to take the services to the community or to industry. Information on "careers" is shared by the college and industry.

NEW MEXICO, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
San Juan College continued	Herb Nicholson Associate Campus Director for Occupational Education	A cooperative effort between the college and nine area fire departments/districts to provide diploma- and degree-granting instructional programs in fire science. The college and industry share facilities, equipment, personnel, and materials.
University of New Mexico — Los Alamos P.O. Box 380 Los Alamos, NM 87544 (505) 662-5919	Herb Lyon Director	Cooperative development of associate degree programs in Instrumentation Engineering and Laser Technology with the Los Alamos Scientific Laboratories. These programs, which are designed to serve the many technicians in the laboratories, are taught by other laboratory employees who are also adjunct faculty members. The university, the laboratory, and a local high school share facilities, equipment, and materials.

NEW YORK

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Dutchess Community College Pendell Rd. Poughkeepsie, NY 12601 (914) 471-4500	Lawrence H. Monaco Dean Curriculum and Instruction	A county-wide industry–education cooperation project involving industry, the college, the Chamber of Commerce, the Board of Cooperative Education Services Center, unions, a CETA-sponsored Private Industry Council, and the State Department of Education. The goal of the effort is to make the educational resources of the county readily available to industry for job development in the private sector in order to attract new business to the county and retain existing businesses. The necessary facilities, equipment, and personnel are shared by members for instructional programs designed to support this effort. *Highlighted, p. 96*
Monroe Community College 1000 E. Henrietta Rd. Rochester, NY 14623 (716) 442-9950	Kay Ford Reed Coordinator Employee Training	A cooperative effort between the college and industry to provide training for small and medium businesses. Facilities and equipment are shared.
Onondaga Community College Syracuse, NY 13215 (315) 469-7741	John Byrnes Cooperative Education Director	A cooperative effort to provide students with work experience prior to graduation in such programs as Electrical Technology, Chemical Technology, Journalism, Graphic Arts/Advertising Technology, etc. The college and industry share facilities, equipment, materials, and personnel.

NEW YORK, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Suffolk Community College Selden, NY 11784 (516) 233-5174	Paul C. Libassi Associate Dean Instructional Services	Formation of a Regional Industrial-Technical Education Council including legislators, educators, and representatives from business, industry, labor, and state government to identify human resource needs, the necessary work force, and vocational-technical programs needed to support a statewide high technology effort.

NORTH CAROLINA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Asheville-Buncombe Technical College 340 Victoria Rd. Asheville, NC 28801 (704) 254-1921	Harvey L. Haynes President	A facility at the college designed to serve new and expanding training needs in industry. Equipment and materials are shared.
Caldwell Community Technical Institute 1000 Hickory Blvd. Hudson, NC 28638 (704) 728-4323	Dennis McCune Machine Shop Instructor	A cooperative program to train employees for a new manufacturing facility. In addition, existing occupational needs were served through another cooperative effort in blueprint reading and tool-room training.
Cape Fear Technical Institute 411 N. Front St. Wilmington, NC 28401 (919) 343-0481	Ed Foss Director Marine Division	Developing on-the-job experiences for students in various marine-related industries. Equipment, facilities, materials, and funding are shared by local and state government and private industry.
Central Carolina Technical College 1105 Kelly Dr. Sanford, NC 27330 (919) 775-5401	Frances K. Andrews Administrative Assistant to the President	A joint effort with the North Carolina Industrial Services Division, and a new company to train 347 machine operators during the start-up phase of the company's operation.
Central Piedmont Community College P.O. Box 4009 Charlotte, NC 28204 (704) 373-6566	Carl E. Squires Vice-President Career Programs	The "Back-to-Industry" program for faculty in which the college and industry cooperatively develop industry experiences in twenty-six occupational areas to help faculty members keep up-to-date in their respective occupational areas. *Highlighted, p. 104*
Durham Technical Institute 1637 Lawson St. Drawer 11307 Durham, NC 27703 (919) 683-2561	Calvin Gillie Dean Apprentice Training	Providing upgrade skills training for workers currently employed as automotive maintenance workers, electrician technicians, machinists, maintenance mechanics, and sheet metal workers. The college provides theory training and the industry offers laboratory training. Both groups cooperatively design on-the-job training activities and share equipment.

NORTH CAROLINA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Forsyth Technical Institute 2100 Silas Creek Pkwy. Winston-Salem, NC 27103 (919) 723-0371	L. Tom Williams Dean of Continuing Education	A cooperative effort to provide upgrade training for employees of a local industry. Equipment, materials, and personnel are shared.
Guilford Technical Institute Jamestown, NC 27282 (919) 292-1101	Ben Gray Associate Dean	Sharing facilities, equipment, and materials to support supervision-management training and programs in the areas of nursing aide, apparel, upholstery, and furniture (woodworking).
Pitt Community College P.O. Box 7007 Greenville, NC 27834 (919) 756-3130	E. B. Bright Dean of Instruction	A cooperative effort between the college and industry to provide back-to-industry experiences for faculty members, offer upgrade training to industry on site and on campus, and place students in industry for on-the-job experiences.
Wake Technical College 9101 Fayetteville Rd. Raleigh, NC 27603 (919) 772-0551	Phares S. Nye Director Planning & Research	A cooperative effort between the college and industry to provide a wide range of occupational training support services for new and existing industry and governmental agencies. Facilities, equipment, and materials are shared by all participants.

NORTH DAKOTA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
North Dakota State School of Science Wahpeton, ND 58075 (701) 671-2221	James A. Horton Vice-President for Academic Affairs	Contractual arrangement between the college and the Telephone Industry Apprenticeship Training, and Safety Committee for the education and training of present and future employees for the telecommunications industry.
	James A. Horton Vice-President for Academic Affairs	A joint effort by Job Service of North Dakota, CETA, and the college to provide job training in rural North Dakota through the use of mobile trailer classrooms and labs. *Highlighted, p. 119*
	James A. Horton Vice-President for Academic Affairs	A program that provides vocational correspondence courses for individuals who are not able to participate in classroom sessions and are employed as apprentices, on-the-job trainees, journeymen, or skilled craftsmen.
	James A. Horton Vice-President for Academic Affairs	Sharing facilities, materials, and personnel with small businesses throughout the state through the college's Small Business Management Development Center.

OHIO

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Cuyahoga Community College 25444 Harvard Rd. Warrensville Township, OH 44122 (216) 464-1450	Karen Taylor Program Leader	Providing practicum experiences in the training of interior design students in conjunction with local interior design studios.
	Fred Cross Program Leader	Providing practicum experience for commercial art students in cooperation with Commercial Art Studios.
	Lynn Rosen Dean Curriculum and Instruction	Cooperation by the college and three hospitals and rehabilitation agencies to provide credit courses to disabled patients/students by means of telephone hookup and microwave television.
Cuyahoga Community College Bulkley Bldg. 1501 Euclid Ave. Cleveland, OH 44115 (216) 241-5966	Vladimir J. Rus Director Howard T. Rice Manager	The Machine Trades Training Program for Youth, whereby the college, CETA, the city, the Cleveland Machine Trades Association, the Cleveland Public Schools, the International Association of Machinists, the United Labor Agency, and local employers work together and share resources. *Highlighted, p. 57*
	Joseph Thompson Program Head Business Programs	Sharing resources and expertise by the college and American Institute of Banking to train and upgrade current and entry-level banking personnel.
	Fred C. Sutton Academic Unit Leader Engineering Technology	Sharing resources and expertise by the college and industry to provide training and develop employees for Numerical Controlled Machining for the machine tool industry.
	Robert A. Rateno Graphic Communications Management and Technology	A cooperative effort between the college and industry in sharing resources to prepare persons in graphics communications, with special work in color separation and in materials testing.
Lorain County Community College 1005 N. Abbe Rd. Elyria, OH 44035 (216) 365-4191	Carl J. Filipiak Coordinator Apprentice Training	Sharing resources by the college and the local steel industry to enable the college to furnish related apprenticeship training for five major crafts in the steel industry. *Highlighted, p. 48*
	Louis Sewell	The college, industry, and law-enforcement agencies share resources to offer the Private Police Officers Training Program.
Muskingum Area Technical College 1555 Newark Road Zanesville, OH 43701 (614) 454-2501	Edward F. Geiger Director Lifelong Learning	Cooperation of the college and industry to provide manager training for industrial engineers.

OHIO, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Sinclair Community College 444 W. Third St. Dayton, OH 45402 (513) 226-2500	James N. Nesmith Director State and Federal Relations	A joint effort of the college, Greater Dayton Consortium for Lifelong Learners, FIPSE, and local industry to help adults to continue their education. Assessing prior learning for college credit was emphasized.
The Ohio State University 1712 Neil Ave. Columbus, OH 43210 (614) 422-1556 and 11 Technical Colleges	Patricia B. Herdendorf Administrator Ohio Technology Transfer Organization	The Ohio Technology Transfer Organization (OTTO), through which the Ohio Board of Regents, the Ohio State University, and eleven technical and community colleges work together to provide technical assistance, information, and advice for Ohio's small businesses and industries to foster economic development. *Highlighted, p. 95*

OKLAHOMA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
South Oklahoma City Junior College 777 S. May Ave. Oklahoma City, OK 73159 (405) 682-1611	Robert P. Harrington Dean of Career Development	Working together with automobile dealers to present the Automotive Technology Apprenticeship Program. The college presents the instruction and the dealers provide further "hands-on" experience and ultimately employment.

OREGON

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Central Oregon Community College N.W. College Way Bend, OR 97701 (503) 382-6112	Glenn A. Edmison Chairman Division of Applied Science	An arrangement to phase equipment donated by industry into existing college programs to support instructional programs in office machine repair technology and industrial mechanics.
Clatsop Community College 16th and Jerome Astoria, OR 97103 (503) 325-0910	David W. Phillips Assistant Dean of Instruction	The college in cooperation with the Oregon State University Sea Grant College Program provides training to captains and alternate captains of trawlers (commercial fishing vessels). Manufacturers of marine electronic equipment have either donated or provided on a loan basis the latest equipment such as echo sounders, sonars, and plotters. *Highlighted, p. 110*

OREGON, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Lane Community College 4000 E. 30th Eugene, OR 97405 (503) 747-4501	Richard R. Earl Director Adult Basic Education Adult High School Completion	The Kitchen Aide Training Program, a cooperative effort of the college with the Adult Basic Education Program and Lane County CETA, under the directive of the Private Sector Initiative Programs (PSIP), and Private Industry Council (PIC). Participants joined staffs to operate a project to address the post high school vocational training needs of an identified population of Lane County Employment and Training mentally retarded clients. Actual on-the-job training at the LCC's Food Service operation prepares clients to be dishwashers and bus persons.
	Bob Way Department Head	The Cooperative Work Experience Program whereby the college relates directly with the community in career related placement of eighteen hundred students working with eight hundred employers. The college is responsible for awarding credit, selecting and placing students, and visiting students at work sites. Employers open their facilities for on-the-job training of students and match jobs to each student's college career choice. *Highlighted, p. 87*
	Carl Horstrup Apprenticeship Coordinator	Cooperation with the Eugene Sheet Metal Joint Apprenticeship Training Council in the installation of shop equipment to upgrade programs for sheet metal apprentices and journeymen.
Linn-Benton Community College 6500 SW Pacific Blvd. Albany, OR 97321 (503) 928-2361	Roy Milner Electronics Instructor	Sharing resources by a private employer and the college to prepare persons for electronic fabrication.
	Susan Wolff Coordinator	Working together with the Public Services Consortium to train CETA students for employment. *Highlighted, p. 59*
	Maxine Lee Training Officer	Cooperation by the college and a private employer to develop curriculum materials and implement a mandatory employee training program in the papermaking industry.
	Maynard Chambers Chairman Business Management Department	Sharing facilities, materials, and personnel with a local industry to provide it with supervisory and management training.
Mt. Hood Community College 10100 NE Prescott Portland, OR 97220 (503) 667-1561	Barbara Updegraff Coordinator	A contractual arrangement with industry to provide education and training services in staff development and employees' personal development.

OREGON, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Treasure Valley Community College 650 College Blvd. Ontario, OR 97914 (503) 889-6493	Earl McCollum Associate Dean of Instruction	Cooperation with industry in providing industrial education for the handicapped. Industry provides the facilities, equipment, and materials, while the college provides the instruction.
Umpqua Community College P.O. Box 967 Roseburg, OR 97470 (503) 672-5571	S. L. Wells Dean of Community and Vocational Education	A cooperative effort by industry and the college to share instructors, equipment, and ideas to train truck drivers to meet industry needs.
	S. L. Wells Dean of Community and Vocational Education	Cooperation of industry, education, and government to train young sheep shearers. The New Zealand Wool Board provides the instructor; the livestock industry provides the sheep; the State Extension service helps coordinate; and the college provides the equipment.

PENNSYLVANIA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Community College of Philadelphia 34 S. 11th St. Philadelphia, PA 19107 (215) 972-7000	Nancy Blum Program Coordinator	The "Learn Where You Earn Program" involving the sharing of facilities and personnel by private and public employers and the college. Both credit and noncredit courses are offered.
Delaware County Community College Media, PA 19063 (215) 353-5400	Eugene J. Kray Dean of Community Education	The college's Center for the Development of Human Resources, which works with local business and industry to serve their training needs.
Northampton County Area Community College 3835 Green Pond Rd. Bethlehem, PA 18017 (215) 865-5351	Paul C. Tambrino Dean of Business Division	Providing educational services to area businesses and industries through the college's Center for Management Development. Facilities, personnel, equipment, and materials were shared as they relate to the training requirements.
Williamsport Area Community College 1005 W. 3rd St. Williamsport, PA 17701 (717) 326-3761	Joseph G. Sick Director Earth Science Division	A cooperative effort between the college and the heavy equipment industry in the sharing of heavy equipment, mechanical tools, and personnel. *Highlighted, p. 111*

PENNSYLVANIA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Williamsport Area Community College continued	George Krause Division Director Building Technologies	Donation of materials for instructional purposes by the building construction and plumbing industries.
	Marlin Roush Division Director Transportation Technology	An exchange of services for supplies with the Civil Air Patrol (C.A.P.). The C.A.P. supplies aircraft, equipment, and supplies for the college's Aircraft Maintenance program. The college supplies facilities and personnel to maintain C.A.P. aircraft, performing all types of repairs and inspection. The same type of relationship exists with the C.A.P. for the college's Vehicle Maintenance Program.
	Paul McQuay Division Director Engineering and Design	Cooperative effort whereby a local industry supplies the college with light gauge metal and aluminum for the welding program while the college trains welders for the industry.

RHODE ISLAND

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Johnson & Wales College 8 Abbott Park Pl. Providence, RI 02903 (401) 456-1000	Gerald A. Fernandez Coordinator of Cooperative Education	A culinary arts cooperative program with major restaurants to provide a trimester of experience for qualifying students. *Highlighted, p. 90*
Rhode Island College 600 Mt. Pleasant Ave. Providence, RI 02908 (401) 456-8000	Walter Blanchard Director	Working with area employers to provide cooperative education work experience for degree students that elect the program.
Rhode Island Junior College 400 East Ave. Warwick, RI 02886 (401) 825-1000	K. F. Dwyer Assistant Dean Health Programs	Sharing of facilities by health care providers and the college for the clinical component of various health programs.
	Charles Phillips Department Chairman	Cooperation with the business community to provide field work experiences for students in Retail Management and Computer Science.
Roger Williams College Old Ferry Rd. Bristol, RI 02809 (401) 255-1000	Kevin E. Jordan Director Historic Preservation	A sharing of personnel and facilities by the college and a private historic restoration corporation. One aspect of the sharing is student internships that provide "hands-on" field experience.
	Kenneth W. Cedergren Director Cooperative Education Program	The Navy Administration Cooperative Education Program providing training and opportunity for students in business and engineering technologies. All students are given rating reviews and may be "converted" to full-time employment with the Department of the Navy upon graduation.

SOUTH CAROLINA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Aiken Technical College P.O. Box 696 Aiken, SC 29801 (803) 593-9231	Allen Givens Welding Department Head	A specially designed welding training program and certification program for a local industry that involved extensive sharing of facilities, equipment, materials, and personnel.
Chesterfield-Marlboro Tech P.O. Drawer 928 Cheraw, SC 29520 (803) 537-5286	Eugene Crawford Director of Cooperative Education and Placement	A cooperative education job training program whereby students utilize the available equipment in their respective places of employment in a variety of occupational programs.
Florence-Darlington Technical College P.O. Drawer 8000 Florence, SC 29501 (803) 662-8151	J. C. Hudson Dean of Continuing Education	Machine shop training to prepare an industry's employees in the use of metal working equipment.
	J. C. Hudson Dean of Continuing Education	A sharing of resources in providing in-plant supervisory development training for industry.
Greenville Technical College P.O. Box 5616 Greenville, SC 29606 (803) 242-3170	Marty Jensen Director	The Technical Scholarship Program whereby students simultaneously receive their education and job experience. Students are involved in a three-year program of work and classroom experiences leading to an associate of applied science degree and three years' seniority at the industry. *Highlighted, p. 117*
Orangeburg-Calhoun Technical College P.O. Box 1767 Orangeburg, SC 29115 (803) 536-0311	Patrick Black Chairman Technology Division	The Personnel Exchange Program that allows instructors to work in industry during the summer months to update their knowledge of industrial operations. Industrial personnel teach a course during the academic year enabling students to receive training from an industrial point of view. *Highlighted, p. 101*
Piedmont Technical College P.O. Drawer 1467 Greenwood, SC 29646 (803) 223-8357	Capers O. Brazzell Human Services Department Head	The Return to the Field Program that enables Human Services instructors to work at the hospital and corresponding trained hospital staff to teach course modules at the college.
	Bill Price Director of Industrial Management Training	Sharing of resources whereby an in-plant employee supervision program leads to an associate degree.
	Robert Wood Director Public Service and Small Business Training	An on-site program in human services for employees in a state institution. Successful completion leads to the associate degree.

SOUTH CAROLINA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Spartanburg Technical College P.O. Drawer 4386 Spartanburg, SC 29302 (803) 576-5770	Jane Reece Project Developer	The Return to Industry Program that sends technical teachers back to industries, businesses, and health facilities for periods of two to fifteen weeks. These returns provide a technical update that enables the teachers to revise curriculums and update teaching. Industry shares expertise and allows faculty to observe and work. *Highlighted, p. 103*
Tri-County Technical College P.O. Box 587 Pendleton, SC 29670 (803) 646-3227	William R. Burnett Director Management Development Department	A cooperative corporate management development program between the college and industry. The student-employees complete fifteen quarter-hours of credit courses in formal management training and rotate through all departments of a company.
Trident Technical College P.O. Box 10367 Charleston, SC 29411 (803) 572-6111	Boyd Bridges Assistant Dean Continuing Education	Extensive sharing of facilities, personnel, equipment, and materials between the college and a major local industry to provide in-plant engineering technical training in the areas of maintenance and control equipment.
	John Cotty Assistant Dean Continuing Education	The Skill Trainer Program involving six hundred hours of classroom instruction for industry. Industry contributes to course development, funding, office space for instructors, materials, and continuing advice on scheduling, course content, books, etc. The college provides full-time instructors, classroom space, and full student services.
	Marion L. Vogel Dean of Learning Resources	Sharing of college library materials and audiovisual equipment with industry on a Use Agreement basis.
York Technical College By Pass 21A Rock Hill, SC 29730 (803) 324-3130	H. Grady Culbertson Dean Extension Division	Sponsorship by the college and a celanese fibers plant of eight Annual Advanced Fire Technology seminars. Sponsorship involves the sharing of facilities, equipment, personnel, and materials.

TENNESSEE

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Chattanooga State Technical Community College 4501 Amnicola Hwy. Chattanooga, TN 37406 (615) 622-6262	David Haddock Associate Dean Continuing Education	Cooperation for economic development with the State of Tennessee Industrial Training Service and a new or expanding industry to prepare a trained and qualified work force. The college has presented supervisory development training, job instructor training, and fork lift operator training. *Highlighted, p. 98*

TENNESSEE, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Columbia State Community College P.O. Box 670 Columbia, TN 38401 (615) 388-0120	Ava D. Eaton Assistant Dean	Designing and offering in-plant courses for industry through the Continuing Education Division of the college.
Jackson State Community College North Parkway E. Jackson, TN 38301 (901) 424-3520	Joe M. Pentecost Director of Career Education	Leadership seminars in-plant or on-campus to upgrade midmanagement industry personnel.
Roane State Community College Patton Lane Harriman, TN 37748 (615) 354-3000	Elaine Johnson Head Department of Allied Health	Cooperation between the college, hospitals, nursing homes, and other health-related facilities to provide clinical training for students in medical records, medical laboratory, respiratory therapy, dietetics, and radiology technologies. The health-care facilities provide training space, equipment, supervisory personnel, and materials to aid in clinical and laboratory instruction. Students receive college credit while providing services to the health facility.
	David Sweet Program Director Mini/Microcomputer Technology	Development of the Mini/Microcomputer Technology Program with the help of the Digital Equipment Corporation. Industry contributes the time of its personnel, software, advice, training, and program analysis. The college provides personnel, facilities, equipment, and students.
Shelby State Community College 737 Union Ave. Memphis, TN 38104 (901) 528-6800	Cleo Long Associate Professor Department Head Dietetic Technician Program & Management	Field experience in health care facilities for Food Service and Nutrition Care students under the direct supervision of a registered dietitian to reinforce learning taking place concurrently in the classroom.
	John Dickinson Head Department of Business Technologies	Cooperation between the Memphis U.S. Post Office and the college in the development of the Postal Management Program containing forty-two quarter-hours and culminating in a certificate. This credit can also be applied to the Business Management degree. The college and the Post Office share facilities, personnel, equipment, and materials.

TENNESSEE, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
State Technical Institute at Memphis 5983 Macon Cove Memphis, TN 38134 (901) 377-4111	Clayton A. Singleton Coordinator Business, Industry, and Government Training	Offering a series of courses for college credit to members of the Memphis Association of Credit Executives (MACE) through the college's Business, Industry, and Government (B.I.G.) Training Department. These courses lead to an Associate and/or Fellow Award granted from the National Association of Credit Managers and the National Institute of Credit. The National Institute of Credit furnishes the college with various course materials and the local MACE chapter handles all of the correspondence pertaining to class announcements and class offerings.
	Clayton A. Singleton Coordinator Business, Industry, and Government Training	Use of successful small businessmen as instructors and community members as resource people in a series of credit courses on successful small business operation offered by the college's Business, Industry, and Government (B.I.G.) Training Department. Lawyers, tax specialists, psychologists, and corporate executives from the community give their time freely.
	Robert Spann Coordinator Business, Industry, and Government Training	Serving industry by providing on-site courses in refrigeration and boiler systems maintenance, and basic electronics.
	Kenneth Eaton Coordinator Business, Industry, and Government Training	Cooperation with the County Penal Farm designed to assist in the rehabilitation of the inmates by combining credit courses offered by the college with a counseling component provided by the Penal Farm. *Highlighted, p. 81*

TEXAS

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Brazosport College 500 College Dr. Lake Jackson, TX 77541 (713) 265-6131	Jack Foreman Dean	Cooperation by industry to provide on-board sea time training for the Marine Technology program aboard work boats operating for local industry on the Gulf of Mexico. Personnel and equipment are furnished by the boat companies.
	Jack Foreman Dean	Cooperation by the college and local industry in developing curriculum, publicity, and laboratories for the construction trades programs.

TEXAS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
College of the Mainland 8001 Palmer Hwy. Texas City, TX 77591 (713) 938-1211	Althea Choates Counselor	The Common Client Project, whereby the expertise and resources of various community agencies and the college are focused on the needs of a student or common client. Each of the participating agencies is guided by a common educational development plan developed by the client and the appropriate case workers. *Highlighted, p. 118*
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT 701 Elm St. Dallas, TX 75202 (214) 746-2125	Donald G. Lindahl Assistant Director of Occupational Education	Cooperation with industry to assess and grant credit for prior learning and/or learning occurring in a noncollege setting. One example is the extensive management training program offered by McDonald's International. The college assessed the program and agreed to grant fourteen equivalent credits for that training. McDonald's provides all the equipment, facilities, and personnel necessary. Upon successful completion of twelve credits at the college, the fourteen credits can be applied toward an associate degree in small business management or mid-management. *Highlighted, p. 115*
	Donald G. Lindahl Assistant Director of Occupational Education	Cooperation of the College District with local schools, the Explorer Scout Program, and industry to conduct a student career interest survey on one hundred thousand high school students grades 9–12 throughout Dallas County. The survey information alerts the college to student interest trends to be used in program planning. The data generated permit individual student contact by appropriate college personnel.
Eastfield College 3737 Motley Dr. Mesquite, TX 75150 (214) 746-3200	Patti Bradshaw Lead Instructor Child Development	Cooperation with the Texas Department of Human Resources and Eastfield College to provide training for the approximately four hundred county Title XX child care workers. College-credit courses and noncollege credit consultation is provided on-site and at the college. *Highlighted, p. 74*
Mountain View Community College 4849 W. Illinois Ave. Dallas, TX 75211 (214) 746-4200	Bill Sorrells Technical/Occupational Dean	Cooperation by the college and a local electronics firm in providing the complete Electronics Technology Program on-site for the company's employees.
North Lake College 2000 Walnut Hill Ln. Irving, TX 76052 (214) 255-5229	Grady Grizzle Division Chair	Collaboration by the Dallas Home and Apartment Builders Association and the college to offer pre-apprenticeship carpentry training. Beginning carpentry credit courses are provided to students who attend school eight hours a day for eight weeks.

TEXAS, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT, continued		
North Lake College continued	Grady Grizzle Division Chair	Cooperation with a local company to train workers in precision optics. The company donated extensive equipment and materials to the college to start the Precision Optical Training Program. The company sends full-time employees to the college for eight hours a day for ten weeks.
Lee College P.O. Box 818 Baytown, TX 77520 (713) 427-5611	Howard Duhon Assistant Dean Occupational Education and Technology	Providing training for industry employees (oil, chemical, rubber, steel, and refineries) on a contract basis. There is a sharing of facilities, equipment, materials, and personnel.
Midland College 3600 N. Garfield Midland, TX 79703 (915) 684-7851	Ed Poulter Department Head	Cooperation between the college and the oil industry to train employees. The oil industry has contributed money, equipment, and personnel for the Petroleum Technology program.
Ranger Junior College College Circle Ranger, TX 76470 (817) 647-3234	Beryl McKinnerney Dean of Occupational Education	Cooperation by the college, area small businesses, and the Texas Education Agency in developing and implementing a program for micro/minicomputer operation applied to small businesses in a rural area.
Vernon Regional Junior College		
North Texas Skills Center 300 Third St. Wichita Falls, TX 76301 (817) 552-6291	Bob M. Carpenter Director North Texas Skills Center	A collaborative arrangement to provide adult educational/vocational programs utilizing existing community/agency resources. Four educational agencies provide a variety of academic, occupational, and career assessment and planning programs to students from a CETA Prime Sponsor, CETA Sub-Contractor, and Business/Industry linkages.
Sheppard Learning Center 3750 ABG/DPE Stop 207 Sheppard AFB, TX 76311 (817) 552-6291	Afton Pike Director Sheppard Learning Center	A cooperative arrangement with the college and a U.S. Air Force facility to provide the necessary courses for students to complete any one of five associate of applied science degree programs.

UTAH

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
College of Eastern Utah 451 East 4 No. Price, UT 84501 (801) 637-2120	Lee Hofeling Associate Dean of Mining	College–industry partnership in providing training and credit for areas in coal and uranium mining (mechanical and health and safety training). The college provides instruction and curriculum; industry provides equipment and facilities.
Utah State Board of Regents 807 E. South Temple Salt Lake City, UT 84111 (801) 969-3411	Ralph W. Monk Project Director	A cooperative endeavor of six colleges in the Utah State Board of Regents to prepare specific educational packages for industry. A team composed of educators and persons from industry works under an instructional developer to prepare the materials. The materials are used in training and upgrading personnel and increasing productivity.
Utah Technical College at Provo/Orem 1395 N. 150 East Provo, UT 84601 (801) 224-6161	Gordon D. Evans Director Fire Training	Cooperation by fire departments in three cities, local industry, and a U.S. Air Force Base, and the college to provide fire service training. *Highlighted, p. 63*
	Roger H. Plothow Director of Continuing Education	Cooperation with the State Board of Higher Education, the state EPA, and Utah cities to provide a water pollution control training program. The cities make their municipal treatment plants available.
	Carl Crawford Instructor	Sharing resources with municipalities, and utility companies throughout the state to establish the Linesman Training Center to meet a critical industrial need.
	Ray Butts Instructor	Collaboration and resource sharing by the college and the Operating Engineers Joint Apprenticeship Committee to provide the Heavy Equipment Operators Program.
	Allen Davis Department Coordinator	Cooperation by the college and area employers to provide the Building Construction Training Program using community "live work" training projects. ("Live work" is the application of learned skills in service to community clientele. Local employers are in effect giving up some of the competitive market.) A similar program exists for the Human Services Training Program.
	Charles Tinney Program Director	A contract with the state to provide vocational courses for inmates at the state prison.

VIRGINIA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
New River Community College Drawer 1127 Dublin, VA 24084 (703) 674-4121	Ronald E. Chaffin Director of Continuing Education	Offering the Industrial Supervision Program and other educational programs for local industry. Industry provides the facilities, tuition, and employees' salary while in class and the college furnishes instruction and materials.

WASHINGTON

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Big Bend Community College 24th and Andrews Moses Lake, WA 98837 (509) 762-5351	Fred M. Huston Dean Occupational Education	Cooperative training centers in local industrial shops for students enrolled in the Auto Mechanics and Recreation Equipment Repair programs.
Columbia Basin College 2600 N. 20th Ave. Pasco, WA 99301 (509) 547-0511	William Evans Associate Dean Occupational Education	Cooperation by local contractors, local labor organizations, and the college to provide a welding training program.
	William Evans Associate Dean Occupational Education	Cooperation by the college and the local nuclear industry in compiling the necessary equipment and specialized personnel for a nuclear technology program. *Highlighted, p. 108*
Edmonds Community College 20000 68th Ave. W Lynnwood, WA 98036 (206) 771-1500	Jack A. McGee Director of Industrial Education	Sharing of facilities, personnel, and equipment between the earth and rock drilling, forest harvesting industries, and the college.
Seattle Central Community College 1701 Broadway BE 3177 Seattle, WA 98122 (206) 587-3800	Shirley Goodrich Chairperson Business and Commerce	Programs with the American Institute of Banking (banks) and the Institute of Financial Banking (savings and loan associations) to enable their employees to improve their job skills and receive college credit for courses completed. Facilities, equipment, materials, and personnel are shared.
Spokane Falls Community College W. 3410 Ft. George Wright Dr. Spokane, WA 99204 (509) 535-0641	Keith Kirkbride Director of Vocational Programs	Contracting by the college with master craftsmen entrepreneurs to create and teach specialized technologies for which there is a need. Instruction is conducted at or near the place of business. There is the one-year Stringed Musical Instrument Repair program and the Custom Saddle Making program. *Highlighted, p. 75*

WASHINGTON, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Walla Walla Community College 500 Tausick Way Walla Walla, WA 99362 (509) 527-4244	Joan Lundgren Coordinator Center for Management Development	Assistance to the college's Center for Management Development from representatives of the business community in meeting the needs of local individuals, businesses, and organizations in the training and development of personnel.
	Greg Farrens Instructor	Sharing of personnel and equipment from industry in a new Irrigation Technology program. Students in the first year of training are released to industry from March through September for field work or clinical experience when employers most need the trained technicians. The instructor in electricity/electronics works one-half time in industry and one-half time in education. Shop space at local electrical contractors is used by students in evenings, who also use tools and testing equipment. *Highlighted, p. 107*

WEST VIRGINIA

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Community College Marshall University Huntington, WV 25701 (304) 696-3646	Glenn Smith Associate Dean	A variety of collaborative programs between the State Police and the college. Police cadets are enrolled as full-time community college students. The college provides some faculty, curriculum review, and supervision. The Police Academy provides staff, facilities, and equipment. There is the Basic Police Officer Training Program and the In-service Special Problems program.
Parkersburg Community College Route 5, Box 167A Parkersburg, WV 26101 (304) 424-8000	Allan F. Gates Dean of Instruction	Providing area business and industry with concentrated courses in speech communications for first-line supervisors. Particular areas of communications that are included vary from one business to another, depending upon the perceived needs of the particular firm. Instruction is compacted into two eight-hour days and is offered for one semester hour's credit.
	Allan F. Gates Dean of Instruction	Cooperation by the college and a major industrial plant to provide secretarial and clerical skills development on-site. Courses are selected by college faculty in consultation with office supervisors at the plant. All courses are college level that are a part of an associate degree program in secretarial science. The company provides released time for employees to receive instruction and furnishes the facilities and equipment for classes.

WEST VIRGINIA, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
West Virginia Institute of Technology Montgomery, WV 25136 (304) 442-3226	Donald Hagen Dean Community and Technical College	Cooperation of the college and industry to obtain field and clinical assignments of students, funding for faculty chairs, laboratory equipment, salary subsidies, and faculty development funds and scholarships.

WISCONSIN

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
Lakeshore Technical Institute 1290 North Ave. Cleveland, WI 53015 (414) 693-8211	Kay Fett Economic Development and Training Coordinator	Sharing facilities, materials, and personnel by local industries and the college to address training needs. Activities include specially designed courses, an orientation program for new employees, and one-day seminars.
	Kay Fett Economic Development and Training Coordinator	A mutual sharing of resources and staff between the college and a large local company with an extensive training department. The company used the college's Business and Conference Center for long-term and intensive training and also utilizes certain specialized labs at the college. The college teaches courses in-plant for the company, and the company trainers teach for the college.
Lakeshore Technical Institute continued	Kay Fett Economic Development and Training Coordinator	Planning and cosponsoring by the college and the Associated Industries and Manufacturers (AIM) six different seminars each year for the AIM members. Credits are granted by the college on the basis of the number of seminars attended per year.
Mid-State Technical College 110 W. 3rd St. Marshfield, WI 54449 (715) 387-2538	James A. Morrell Supervisor/Coordinator	Cooperation with hospitals to provide clinical experience for students in respiratory therapy.
Milwaukee Area Technical College 1015 N. 6th St. Milwaukee, WI 53203 (414) 278-6600	James F. Jansen Supervisor/Coordinator	The college's two hundred and forty hour recruit school for police, forty hour annual inservice program for police, twenty two-day workshops for private security, and annual and specialized training for each industry. Associate degree curricula are offered for both law enforcement and private security. Training programs are offered in locations convenient to users, often in plants, police stations, or meeting halls. Instructors with expertise are recruited from the industries to teach in specialty areas. *Highlighted, p. 82*

WISCONSIN, continued

COLLEGE	CONTACT PERSON	TYPE OF ACTIVITY
North Central Technical Institute 1000 Schofield Ave. Wausau, WI 54401 (715) 675-3331	Sister Phyllis Hoffman Robert G. Rasmussen Instructors	Cooperation with the Wausau Hospital to provide Radiologic Technology students with 1,872 hours of clinical education. Students are rotated through each area of the Radiology Department to observe, assist with, be assisted, and perform all routine radiography.
Waukesha County Technical Institute 800 Main St. Pewaukee, WI 53072 (414) 691-3200	Richard J. Huber Continuing Education Coordinator—Business	Cooperation between the college and General Electric to operate the "Shared Resource Program" to assess and then address the training needs at General Electric. *Highlighted, p. 83*

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

APPRENTICESHIP TRAINING

CETA PROGRAMS

COMMUNITY-WIDE COLLABORATION

COMMUNITY-BASED EDUCATION

CONTRACT SERVICES FOR INDUSTRY

COOPERATIVE EDUCATION AND FIELD EXPERIENCES

ECONOMIC DEVELOPMENT SERVICES

FACULTY "RETURN TO INDUSTRY" PROGRAMS

PROGRAM DEVELOPMENT SHARING

SPECIALIZED PROGRAMS

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

APPRENTICESHIP TRAINING

Competency-Based Apprenticeship Training Program
Alabama Technical College
Gadsden, Alabama

Apprenticeship Training for Steel Industry
Lorain County Community College
Elyria, Ohio

Electrical and Mechanical Maintenance Apprenticeship Program
Bainbridge Junior College
Bainbridge, Georgia

Related Training for Machine Shop Apprentices
Cumberland County College
Vineland, New Jersey

Industry/Apprenticeship Education Program
Rio Salado Community College
Phoenix, Arizona

PROGRAM

COMPETENCY-BASED APPRENTICESHIP TRAINING PROGRAM

COLLEGE
Alabama Technical College
1001 East Broad Street
Gadsden, Alabama 35999

CONTACT
Bryan Stone
Industrial Coordinator
(205) 547-5451

Description of Activity

The college and a local steel corporation are jointly training apprentices in the industrial electrical occupational area. The competency-based program focuses on the teaching of theory and on practical laboratory experiences in the classroom and in an industrial setting utilizing a self-paced, individualized method of instruction.

Implementation Procedures

The program was developed jointly by the college and industry in cooperation with the Bureau of Apprenticeship and Training, U.S. Department of Labor. Coordinators from both education and industry cooperate in the identification of instructional content, development of performance-based student activities, and management and supervision of student attendance and progress. Testing, interviewing, and selecting for the program are competitive according to government, labor union, and company guidelines.

Contributions by Industry

The industry contributes a program coordinator who participates in the program development and supervision. Practical laboratory sites for on-the-job training and associated books and materials are also made available.

Contributions by the College

The college provides a program coordinator who cooperates with the industry program coordinator in the identification of instructional content and laboratory experiences and in providing general program supervision. In addition, instructors, classrooms, laboratory facilities, and audiovisual materials are made available by the college to support the program of instruction.

Benefits to Industry

The industry benefits from the availability of highly skilled employees who are prepared in a cooperatively-planned, less expensive educational environment.

Benefits to the College

Positive public relations as evidenced by increased enrollment and improved employment opportunities for technical school graduates is the greatest benefit to the college.

Critical Elements for Success

High-quality instruction and self-paced learning are essential for the program to meet its objective of training apprentices who perform measurably better on the job.

PROGRAM

APPRENTICESHIP TRAINING FOR STEEL INDUSTRY

COLLEGE
Lorain County Community College
1005 North Abbe Road
Elyria, Ohio 44035

CONTACT
Carl J. Filipiak
Coordinator
Apprentice Training
(261) 365-4191

Description of Activity

The college and the local steel industry cooperatively prepare apprentices in five major craft areas. The apprentices receive six hundred forty hours of campus-based, lecture/laboratory training in approximately one hundred thirty different subjects pertinent to the five major crafts. The purpose of the campus training is to help develop the students' academic background so that the industry training may concentrate on developing the skills and knowledge necessary for success in the crafts.

Implementation Procedures

Curricula in the five major areas are developed by the college and the local steel industry training department.

Contributions by Industry

Tools, equipment, training aids, films, videotapes, and equipment related to the five craft areas are made available to the school. In addition, the local steel industry provides substitute instructors or instructors for specialized topics.

Contributions by the College

The college contributes professional administration and implementation of the educational plan. Further, faculty members provide instruction in academic areas on which the apprentice can build a strong technical knowledge base. Finally, facilities in an educational environment are available for use by the industry.

Benefits to Industry

The financial and educational benefits are that the industry is provided with a low cost, high quality program that is based on the needs of the industry and the students. Further, the students are more academically prepared to pursue a training program, thereby saving the company training costs and time.

Benefits to the College

The college is given or lent expensive and specialized equipment. Involved faculty members are kept up to date on changes in industry. The college is able to be of greater service to the community.

Critical Elements for Success

A clear line of communications is essential to insure that the needs of the students and of the industry are addressed and that the goals of the program are achieved.

PROGRAM

ELECTRICAL AND MECHANICAL MAINTENANCE APPRENTICESHIP PROGRAM

COLLEGE
Bainbridge Junior College
U.S. Highway 84, East
Bainbridge, Georgia 31717

CONTACT
Robert U. Coker
Chairman, Division of
Vocational Education
(912) 246-6240

Description of Activity

This is a joint effort between the college and a local industry to provide electrical and mechanical maintenance apprenticeship training. The major feature of the cooperative effort is that the college deals with the theoretical concepts one day per week and the industrial staff assists the students with the "hands-on" application of the concepts in the industrial environment four days per week.

Implementation Procedures

The course content is taught jointly by the college and plant personnel. The plant personnel, management, and union administer the "hands-on" component of the programs. Students must complete the four-year (eight hundred contact hours) programs in order to be eligible to be a journeyman. The school/industry members share in the operation and supervision of the program, including student selection, program administration, and evaluation.

Contributions by Industry

Tools and equipment are contributed for the "hands-on" phase of the programs. In addition, master craftsmen guide and direct the apprentice through various job experiences that are necessary for journeyman certification. Finally, the college tuition, fees, textbooks, and supplies are provided to the apprentice.

Contributions by the College

The college contributes the instructional staff for the theoretical concepts and laboratory activities phase.

Benefits to Industry

The industry benefits financially in not having to develop, equip, and staff laboratories for the theoretical concepts phase. In addition, the professional background, experience, and skills of college vocational personnel in curriculum development and implementation are major educational benefits.

Benefits to the College

The financial benefits to the college are in not having to purchase the equipment and tools necessary for hands-on activities to develop the skills of the apprentices.

Critical Elements for Success

Cooperation between the school, industry, and the union in screening and selection of students, identification and delineation of content, and evaluation and refinement of content to reflect the state-of-the-art are all essential for success.

PROGRAM

RELATED TRAINING FOR MACHINE SHOP APPRENTICES

COLLEGE
Cumberland County College
Sherman Avenue and Orchard Road
Vineland, New Jersey 08360

CONTACT
Thomas A. Henry
Assistant to the President
(609) 691-8600

Description of Activity

This twenty-six-week program incorporates an existing associate degree program at the college and an industry training program in engine lathe operation and associated machine shop practices. The college provides related training one evening per week while the industry provides specialized technical training on site for forty hours per week. Students receive academic credit for the training.

Implementation Procedures

As a result of an agreement between the college and the industry, this program represents the first six months of a four-year industry apprenticeship training program. The agreement identifies the work hours per week, pay schedule for the trainees, and the evaluation procedures to be employed in assessment of the program.

Contributions by Industry

Tools and equipment are contributed for the on-site portion of the program.

Contributions by the College

The college contributes the instructional staff and the curriculum that was established at the college.

Benefits to Industry

The industry benefits by acquiring properly prepared personnel. In addition, funding is available through the State Department of Labor and Industry for tools, equipment, and materials. As a result, the cost of the equipment necessary to support the program is made available through sources other than company financing.

Benefits to the College

The greatest benefit is that the college is fulfilling its mission to assist local industry in meeting its human resource requirements.

Critical Elements for Success

Success has hinged on the willingness of the college, the industry, and the State Department to cooperatively design, operate, and manage a program that meets the needs of the students and the industry.

PROGRAM

INDUSTRY/APPRENTICESHIP EDUCATION PROGRAM

COLLEGE
Rio Salado Community College
102 North 40th Street
Phoenix, Arizona 85034

CONTACT
Armando Gonzales
Associate Dean of Education
(602) 275-7881

Description of Activity

This is a cooperative sharing effort in which the college conducts apprenticeship programs at a local firm's facility at no cost to the college. Most instructional materials, equipment, and instructional personnel are provided in the in-plant program. As the needs of the students and industry are identified, the college and the industry develop courses to meet these needs.

Implementation Procedures

Once the instructional programs are identified, the college and the industry develop the content and materials for the program. The equipment and facilities necessary to support the program are then identified. All courses are approved by the curriculum committee consisting of members from the college and the district.

Contributions by Industry

Industry contributes student/employees that may otherwise not receive education/training programs. In addition, industry contributes the facilities, equipment, and materials. Many of the qualified instructors are also contributed by the industry.

Contributions by the College

The college furnishes instruction and offers credit courses that may enable the employee to aim toward a degree during employment. The college also provides some facilities, equipment, and materials. Student services are also available to any student/employee enrolled in a program through the college.

Benefits to Industry

A flexible, responsive program of instruction that provides the essential academic and technical skills necessary for career progression is one major benefit. In addition, because the college assumes the cost of instruction, the industry benefits financially.

Benefits to the College

A tremendous savings is realized through the use of facilities, equipment, and instructional personnel provided by the industry. Further, the college is kept abreast of the state-of-the-art by implementing the results of new and changing technology into programs.

Critical Elements for Success

Building flexibility (short-term courses as well as full semester courses) into the programs to meet the needs of industry and also to provide employees with specialized and technical skills is one critical element for success. In addition, identifying, certifying, and training outstanding technical personnel for the instructor function is an important process.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

CETA PROGRAMS

Private Sector Improvement Project
Indian Hills Community College
Ottumwa, Iowa

Welding Program with Private Industry Council
Phillips County Community Council
Helena, Arkansas

Machine Trades Training Program for Youth
Cuyahoga Community College
Cleveland, Ohio

Drafting and Designer Training Project
Cerritos College
Norwalk, California

Training of CETA Participants for Employment
Linn-Benton Community College
Albany, Oregon

PROGRAM

PRIVATE SECTOR IMPROVEMENT PROJECT

COLLEGE
Indian Hills Community College
Industrial Airport
Ottumwa, Iowa 52501

CONTACT
Stephen M. Poort
Dean of Instruction
(515) 682-8081

Description of Activity

This cooperative effort provides training in sheetmetal, machine operation, and welding. The major feature of the program is the extensive involvement of school/industry groups, such as CETA, manufacturers, unions, and the community college. All groups participate in the overall operation and management of the training programs. Upon completion of the courses of instruction, students are prepared for employment in the occupational areas.

Implementation Procedures

Clients with a reasonable aptitude for successful completion of training with marketable skills in sheetmetal, machine operation, and welding are selected.

Contributions by Industry

Industry's commitment includes serving on the Advisory Committee, hosting field trips, assisting in the identification of curriculum content, counseling and selecting students, identifying teaching faculty, supplying equipment, and determining student selection criteria.

Contributions by the College

The college contributes the classroom and laboratory space to conduct the welding and machine operator programs. In addition, the college contributes one-half salary for the sheetmetal instructor's salary.

Benefits to Industry

The greatest benefit to the industry is the increase in trained personnel available to compete for positions in the three occupational areas. Industry also has an excellent opportunity to influence those students selected for training to stay in the area, be aware of the students' performance capabilities, and promote their own industry.

Benefits to the College

The opportunity to respond to the needs of the community is a major benefit to the college. Furthermore, the development of a trustful and supportive professional relationship contributes to the success of the effort.

Critical Elements for Success

The success of the program is contingent on each partner's possessing a firm understanding of each party's role in expediting the project objectives, frequent and meaningful communication during all phases of the project, trust in colleagues' and students' ability to succeed, and an objective evaluation by all participants.

PROGRAM

WELDING PROGRAM WITH PRIVATE INDUSTRY COUNCIL

COLLEGE
Phillips County Community College
Box 785
Helena, Arkansas 72342

CONTACT
John Baker
Dean
Occupational Education
(501) 338-6474

Description of Activity

Industry and the college coordinate efforts to provide a structured training program in welding technology.

Implementation Procedures

Both sectors provide equal matching funds with additional support from CETA while instruction is conducted by the college in college facilities. The Private Industry Council selects applicants for training and local industries hire the trainees for on-the-job experiences.

Contributions by Industry

Industry provides metal, equipment, and other materials for training. A quality control inspector monitors the progress of the trainees.

Contributions by the College

The college provides welding units, facilities, and instructors. Training is conducted at the college facilities.

Benefits to Industry

The training will result in increased employment in the area, thus creating a reduction in social assistance payments and unemployment compensation. In addition, employees will be trained according to the specifications of the employer.

Benefits to the College

The program will increase enrollment in the occupational welding program and give the college an opportunity to respond to the needs of the community.

Critical Elements for Success

Cooperation between the college, industry, and the Private Industry Council in the planning, operation, and administration of the program is an essential ingredient.

PROGRAM

MACHINE TRADES TRAINING PROGRAM FOR YOUTH

COLLEGE
Cuyahoga Community College
Bulkley Building
1501 Euclid Avenue
Cleveland, Ohio 44115

CONTACT
Vladimir J. Rus, Director
Howard T. Rice, Manager
(216) 241-1140

Description of Activity

This national demonstration project provides twelve weeks of comprehensive training for youth in basic education skills, personal development, principles of basic machining, and job search skills. The student is then placed for on-the-job training with individual employers.

Implementation Procedures

Program funding, operation, and administration involve major government, school, and industry organizations such as CETA, the city of Cleveland, the Cleveland Machine Trades Association, Cleveland Public Schools, the International Association of Machinists, the United Labor Agency, and Cleveland employers.

Contributions by Industry

In-plant training equipment and curriculum materials for the on-the-job phase are contributed by industry. Further, program refinement through the Industry Advisory Committee and program supervision is also a major contribution by industry.

Contributions by the College

The college contributes the overall program administration and fiscal management, supportive services staff, instruction, job development and placement, and on-the-job training development. Also, the college provides the necessary facilities, equipment, and instructional resources for the on-campus phase of the program.

Benefits to Industry

The industry benefits in receiving well-trained employees, in selecting candidates for the program, and in possibly obtaining on-the-job training contracts with 50 percent reimbursement.

Benefits to the College

One benefit to the college is that additional students are available for credit and noncredit courses. Further, the college is kept abreast of the state-of-the-art through cooperative interaction with the industry, leading to program refinement and updating. Finally, participation in a cooperative effort aimed at providing solutions to pressing urban problems helps the college fulfill its mission.

Critical Elements for Success

A close, cooperative effort between school, city government, industry, labor, and the city schools is critical in the planning and operational activities. Open and honest professional interaction of all participants leads to a trustful, credible environment.

PROGRAM

DRAFTING AND DESIGNER TRAINING PROJECT

COLLEGE
Cerritos College
11110 East Alondra Boulevard
Norwalk, California 90650

CONTACT
Richard E. Whiteman
Dean of Vocational Education
(213) 860-2451

Description of Activity

Ninety economically disadvantaged students receive training in basic and advanced drafting design and subsequent employment with industry. The program is conducted in three phases: Phase I—general drafting skill development and engineering, Phase II—specialized drafting/design, and Phase III—advanced drafting/design for the most successful students in Phases I and II. All trainees satisfactorily completing Phases I and II are placed on the job in entry-level drafting positions.

Implementation Procedures

Trainees are jointly recruited by the college, industry, Employment Development Department, and CETA. One-third of the participants are minority and 10 percent are handicapped. The administration and supervision of the program are shared by all participants.

Contributions by Industry

Equipment, facilities, and instructors for Phases I and II are provided by a local power corporation while the city's Employment Development Department provides contract development guidance on and assistance in recruitment.

Contributions by the College

The college contributes the expertise to conduct the basic academic and skill training in Phase I and also assists in Phase II and III. Further, the college assumes major responsibility for contract formation and administration of the program relating to budget and accounting.

Benefits to Industry

Qualified, trained personnel to meet the growing demands for drafters and designers in a major metropolitan area is the greatest benefit.

Benefits to the College

A major benefit to the college is the opportunity to provide the industry with qualified trained personnel while meeting the career needs of the disadvantaged.

Critical Elements for Success

Cooperation and communication between the school, industry, and government organizations in establishing goals to meet the needs of the disadvantaged students and industry are the critical elements for success.

PROGRAM

TRAINING OF CETA PARTICIPANTS FOR EMPLOYMENT

COLLEGE
Linn-Benton Community College
6500 SW Pacific Boulevard
Albany, Oregon 97321

CONTACT
Susan Wolff
Coordinator
(503) 928-2361

Description of Activity

The Public Service Consortium and the college work together to prepare CETA students for employment. Training is provided in four locations within the state in occupational areas identified by the college as the areas of greatest need.

Implementation Procedures

A contract that delineates the goals of the program, the functions and responsibilities of each participant, and the allocation of funds is drawn up. The college then conducts need surveys to determine areas of training. The consortium directs eligible participants into the appropriate classes.

Contributions by Industry

Industry provides the personnel to select, guide, and counsel eligible CETA participants to attend training sessions. Through the consortium, direction and counsel regarding the federal rules and regulations is provided.

Contributions by the College

The program utilizes the college facilities and staff to provide training. Further, the college coordinates the training program, develops new courses, employs instructors, and provides the necessary career development assistance to enhance the employability of the students.

Benefits to Industry

The industry benefits by being able to utilize the college's existing instructional facilities, staff, and programs. In addition, the professional background and experience of the college in conducting needs assessments, and in developing and administering programs are major educational benefits to the industry.

Benefits to the College

The Community Services Consortium provides the funding for the program. In addition, increased enrollment in the programs and the opportunity to respond to the needs of the community are major benefits to the college.

Critical Elements for Success

Communication between the college and the consortium to confer on training needs, program goals, types of courses, and the quality of training is essential.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

COMMUNITY-WIDE COLLABORATION

Fire Service Training
Utah Technical College at Provo
Provo, Utah

Community-wide Multimedia Programs (Study Unlimited)
Chicago City-Wide College
Chicago, Illinois

Associate Degree Nursing Program in a Rural Community
Cochise Community College
Douglas, Arizona

Rocky Mountain Energy and Environmental Training Center
Community Center of Denver
Golden, Colorado

Minicomputer Technology
Dalton Junior College
Dalton, Georgia

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PROGRAM

FIRE SERVICE TRAINING

COLLEGE
Utah Technical College/Provo
1395 North 150 East
Provo, Utah 84601

CONTACT
Gordon D. Evans
Director
(801) 224-6161

Description of Activity

This is the collaborative effort of several major industries, a college, fire departments in three cities, and a U.S. Air Force Base to share resources, facilities, talent, expertise, and time to provide a statewide fire service training program. Paid, volunteer, and industrial fire brigade fire fighters attend the programs for upgrade training.

Implementation Procedures

In most cases, a simple request is all that is necessary to get permission to start a training program or use another industry's facilities, equipment, and personnel.

Contributions by Industry

Instructors come from fire departments. Local training programs are held at colleges, fire stations, school buildings, public buildings, conference rooms, and some private businesses.

Contributions by the College

The college contributes the administration of the programs, development of course outlines, arrangements for instructors, facilities, equipment, and materials, and the coordination and implementation of seminars and specialty courses.

Benefits to Industry

The industry benefits include the availability of highly qualified trained personnel, an educational resource center where industry can share equipment, materials, personnel, and training programs, and the professional background and experience of all the personnel involved.

Benefits to the College

The cooperation and involvement of industry has reduced the cost of the program to the college, which has in turn increased enrollment.

Critical Elements for Success

A critical element for success is the cooperation that is necessary between the college and the industries in willingly volunteering their time, expertise, equipment, and materials to make the program work.

PROGRAM

COMMUNITY-WIDE MULTIMEDIA PROGRAMS (STUDY UNLIMITED)

COLLEGE
Chicago City-Wide College
185 North Wabash Avenue
Chicago, Illinois 60601

CONTACT
John Thissen
Dean
(312) 977-2532

Description of Activity

This is a cooperative effort to make available to community members credit, noncredit, and General Education Development (GED) programs. The programs, in video cassette format, are offered at two major city public library systems and their branches, three correctional facilities, and an army base. The cooperating institutions share study and storage space, hardware and software, printed materials, faculty members, counselors, librarians, and site coordinators.

Implementation Procedures

Students view the programs at the locations and make use of all materials and personnel available to complete the appropriate course of study. Governmental agencies must satisfy the college requirements for curriculum, examination administration and security, and space and equipment availability.

Contributions by Industry

Governmental agencies provide study and storage space, some personnel, equipment, materials, program publicity, and assist in recruiting students.

Contributions by the College

The college contributes hardware and software, counselors, and qualified faculty. A full-time coordinator, supported by clerical and technical assistants, monitors the entire program.

Benefits to Industry

Industry is the recipient of better prepared workers who are more aware of their contribution to society and the community.

Benefits to the College

The college is better able to meet the educational needs of the community.

Critical Elements for Success

A close cooperation between industry and the institutions must be established and maintained to insure the success of the effort.

PROGRAM

ASSOCIATE DEGREE NURSING PROGRAM IN A RURAL COMMUNITY

COLLEGE
Cochise Community College
Douglas, Arizona 85607

CONTACT
Ellen Saxe
Division Chairman
Nursing/Health Technology
(602) 364-7943

Description of Activity

A cooperative arrangement between the college, six hospitals, and fourteen community agencies allows this program to provide clinical experiences for nursing students. Close liaison with each agency makes it possible for the college to assign students to any experience they require. This arrangement provides diverse experiences for students in a rural community. As a result of extensive sharing and strong support, the college educates good nurses and the hospitals have improved patient care.

Implementation Procedures

The relationship between the agencies and the college is informal. Although a contractual arrangement is maintained, the participants informally share facilities, equipment, and materials. The directors of nursing for each agency meet with the Director of Nursing Education on a monthly basis so that close communication is maintained.

Contributions by Industry

The industry contributes personnel for guest lecturing and instruction; equipment and supplies for instruction, and the facility for practical learning experiences.

Contributions by the College

The college contributes the faculty for instruction and student services; instructional facilities, aids, and materials; and inservice programs for the hospitals.

Benefits to Industry

The collaboration between the agencies, hospitals, and the college provides an inproved educational program, thereby providing an improved quality and quantity of nurses to provide patient care.

Benefits to the College

The educational benefits are quality of programs and students, and reduced costs realized from the donation of supplies by the agencies and hospitals.

Critical Elements for Success

A common goal and a willingness to participate in open, honest, and sincere communication are critical elements for success.

PROGRAM

ROCKY MOUNTAIN ENERGY AND ENVIRONMENTAL TRAINING CENTER

COLLEGE
Community College of Denver
Red Rocks Campus
12600 West 6th Avenue
Golden, Colorado 80401

CONTACT
Barry Noonan
Dean of Instruction
(303) 988-6160

Description of Activity

A consortium established this Training Center by sharing funding, facilities, equipment, and staffing to support career programs in chemical operations, machine tool operation, word processing, and welder-pipefitting. The programs are sponsored by a consortium of diverse agencies such as the college, State Community College Board, State Department of Labor and Employment, a major aircraft firm, the Federal Department of Energy, and metropolitan area CETA agencies

Implementation Procedures

Annual or semi-annual contracts are approved by the Federal Department of Energy and the State Attorney General's office. Supervision of programs is shared in varying degrees by all members.

Contributions by Industry

The industry provides capital, equipment, and administrative staff in support of the program. Instructors are selected from the aircraft firm's staff and paid by the college.

Contributions by the College

The primary contribution of the college is in the form of instructional costs and supplies.

Benefits to Industry

The primary financial and educational benefits are trained personnel for high demand fields. A majority of the students are economically disadvantaged; therefore, industry is provided with an increased number of qualified minority applicants.

Benefits to the College

The college has been able to establish a high cost program that may not have been affordable under state funding.

Critical Elements for Success

The program's success has been a product of the cooperation of diverse agencies at the federal, state, and local levels with private industry.

PROGRAM

MINICOMPUTER TECHNOLOGY

COLLEGE
Dalton Junior College
P.O. Box 2168
Dalton, Georgia 30720

CONTACT
Larry Little
Chairperson, Division of
Vocational-Technical Education
(404) 278-9334

Description of Activity

This is a collaborative arrangement to provide junior field service technicians in minicomputer technology. This program is sponsored by a major digital company, a regional commission, and a state department of education and is offered at selected schools. The sponsors and each school cooperatively provide facilities, equipment, instructional materials, counseling, recruitment, teacher training, and funding.

Implementation Procedures

The Minicomputer Technology Program (MTP) is made available to schools selected from recommendations made by the MTP regional coordinators and field service managers. When a mutual interest exists between industry and the school, initial meetings are arranged between the MTP staff and school representatives. If the school is chosen for participation in the program, it must maintain specified communications and evaluations with the sponsors.

Contributions by Industry

Industry provides curriculum materials, discounted equipment, instructor salary and training, as well as assistance in guidance, recruitment, and state-of-the-art technology.

Contributions by the College

The college provides facilities, inservice teacher training, general and related technical instruction, and student services such as guidance.

Benefits to Industry

The computer industry benefits from trained technicians in a growing and developing occupational area.

Benefits to the College

The college is provided the unique opportunity to produce graduates with highly marketable skills and also benefits from reduced start-up, developmental, and operating costs.

Critical Elements for Success

A critical element for success is a cooperative relationship with industry. Equally important is a competent professional faculty, public relations, the necessary equipment and instructional materials to meet program development guidelines, and the effective use of an advisory committee.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

COMMUNITY-BASED EDUCATION

Contracting Services—The Common Market Concept
John Wood Community College
Quincy, Illinois

Contracting with Business and Industry
Bay de Noc Community College
Escanaba, Michigan

Adult Basic Education
Idaho State University
Pocatello, Idaho

On-Site Training and Consultation for Child Care Providers
Dallas County Community College District
Mesquite, Texas

Custom Saddle Making and Stringed Musical Instrument Repair
Spokane Falls Community College
Spokane, Washington

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PROGRAM

CONTRACTING SERVICES—THE COMMON MARKET CONCEPT

COLLEGE
John Wood Community College
1919 North 18th Street
Quincy, Illinois 62301

CONTACT
Paul R. Heath
President
(217) 224-6500

Description of Activity

The college contracts with other educational agencies and the business/industrial community to provide comprehensive educational services such as occupational skills training, counseling/placement services, administrative support and physical facilities and libraries for a wide range of needs. A good example of this concept is the Associate Degree Program in Broadcast Electronics Technology provided by a private firm under the sponsorship of the college. Thus, the college uses community resources as a part of the educational delivery system, avoiding duplication of human and physical resources.

Implementation Procedures

The college analyzes its offerings to determine if a contractual arrangement could increase services to the students, improve the quality of their programs, or bring about cost savings. If so, it determines if local industry is receptive to sharing. The college then explains the plan to its trustees, its staff, and the community. If reaction is favorable, a contract between the college and industry is drawn up.

Contributions by Industry

Industry contributes classroom space, equipment, and teaching personnel.

Contributions by the College

Sharing instructional equipment, providing support personnel, and classroom/library materials are the contributions made by the college. Program administration and certification are also provided by the college.

Benefits to Industry

Industry benefits in that it is now able to train its own employees to meet its particular needs while offering an accredited degree or certificate as a part of the training.

Benefits to the College

The college benefits through the purchase of a quality educational program at a reasonable cost while the students receive relevant training working with state-of-the-art equipment. The financial benefits to the college are the savings obtained by not having to purchase the equipment and tools necessary to support the programs.

Critical Elements for Success

A community-based educational philosophy that recognizes the industrial complex as a viable and appropriate training source, a proper dialog with decision makers, and experience in contractual education, are critical elements for success.

PROGRAM

CONTRACTING WITH BUSINESS AND INDUSTRY

COLLEGE
Bay de Noc Community College
Danforth Road—U.S. 2 & 41
Escanaba, Michigan 49829

CONTACT
Charlie L. Gold
Director
(906) 786-5802

Description of Activity

This is a specialized training, career orientation, and personnel development effort that utilizes local businesses and the industrial complex of the community as a training laboratory. Entry-level skill training is offered in over twenty occupational areas, primarily in the industrial setting. In addition, students can acquire job skills in nontraditional areas and assess their interests and capabilities in realistic settings while learning from professional business persons. Programs are performance-based; the college and industry cooperatively provide realistic and relevant learning activities based on the actual working conditions. The student is evaluated to determine the extent to which the performance objectives have been mastered.

Implementation Procedures

Concurrently with the off-campus instruction, each student enrolls for a minimum of eight credit hours of related on-campus instruction. The program director and the employer/trainer agree upon the prerequisite skills required in each field. Then a clear set of performance objectives are designed. The resulting job profile serves as guidelines for the employer/trainer.

Contributions by Industry

The opportunity for hands-on instruction and experiences for students is a major industry contribution. Industry also provides the use of facilities, equipment, materials, and personnel necessary to insure that entry-level job skills can be acquired and predetermined performance objectives can be met.

Contributions by the College

The college provides the instruction in related subjects, and through guidance, prepares students for maximum gain from their training experience. In addition, the college monitors and evaluates student progress and program effectiveness.

Benefits to Industry

The greatest benefit to industry is the opportunity to provide state-of-the-art input into the educational process. Further, qualified and skilled people are made available to the work force.

Benefits to the College

The college broadens access for many groups of individuals and expands occupational offerings to students of all ages without appreciably increasing overhead. The effective use of community resources through collaborative contractual agreement helps meet the pressure of rising costs. It allows the college to respond effectively to the varied needs of business, labor, and students. Enrollment is increased by serving the needs of a greater segment of people within the college's service area who are not served by traditional offerings.

Critical Elements for Success

The two most critical elements for success are attaining and maintaining a cocperative working relationship with industry and gaining the support of the college faculty and administration.

PROGRAM

ADULT BASIC EDUCATION

COLLEGE
Idaho State University
School of Vocational-Technical Education
Roy F. Christensen Building
Pocatello, Idaho 83209

CONTACT
Art Clawson
Supervisor
Adult Basic Education
(208) 236-2468

Description of Activity

This is a school/community cooperative effort to provide adult basic education programs at eight different locations in Southeastern Idaho. A full range of programs are provided to students who wish to upgrade their basic skills or complete the high school equivalency examination. Sharing of facilities, equipment, and personnel is essential to the success of programs designed to meet the variety of needs of a diverse population. The Adult Basic Education program (A.B.E.) has encouraged migrant education, Head Start, senior citizen and other minority organizations, churches, and industry to recommend and encourage members to enroll in classes. Special meetings and classes have been held at work sites where entry-level employees who need basic skills instruction can attend.

Implementation Procedures

The program was successfully begun with volunteer participation and a small grant from the State Department of Education. It is sustained through the efforts of the Vocational-Technical School Administration.

Contributions by Industry

Industry contributes classroom equipment, personnel, donations, and the time of coordinating officials.

Contributions by the College

The school provides approximately one-third of the facilities, equipment, and materials. Administrative, financial, and counseling services are also shared.

Benefits to Industry

A major benefit to industry is that over two thousand students have successfully achieved at least a twelfth-grade competency in language, math, and reading, and as a result, have improved their self-confidence and function more effectively at work.

Benefits to the College

The school's ability to meet the educational needs of the students and the community is a major benefit to the college.

Critical Elements for Success

A willingness to accept change in positive ways and a sensitivity to the needs of disadvantaged minority populations are the critical elements for success.

PROGRAM

ON-SITE TRAINING AND CONSULTATION FOR CHILD CARE PROVIDERS

COLLEGE
Eastfield College
Dallas County Community College District
3737 Motley Drive
Mesquite, Texas 75150

CONTACT
Patti Bradshaw
Lead Instructor
Child Development
(214) 746-3220

Description of Activity

The Texas Department of Human Resources (TDHR) has contracted with the college for its Child Development program to provide training for approximately four hundred Title XX child care workers in the county. Credit courses and noncredit consultation is provided on-site and at the college. A van is used to facilitate this training.

Implementation Procedures

Training, funded by TDHR, follows a plan that was proposed by the college's Child Development Center. The program includes six full-time staff and several part-time teachers. These part-time staff members work together in providing training for the regular Child Development program and the TDHR program.

Contributions by Industry

TDHR provides 70 percent of the costs for staff, media equipment, and other items to support the operation of the program.

Contributions by the College

The college provides 30 percent matching funds for operations and supplies staff, media, consulting, and other services.

Benefits to Industry

TDHR benefits by having better trained staff in their Title XX Child Care Center.

Benefits to the College

A major benefit is that the college can provide better educational opportunities by conducting the Child Development program on and off campus.

Critical Elements for Success

Close cooperation in planning and in the implementation of training is necessary between TDHR and the college for success of the program.

PROGRAM

CUSTOM SADDLE MAKING AND STRINGED MUSICAL INSTRUMENT REPAIR

COLLEGE
Spokane Falls Community College
West 3410 Fort George Wright Drive
Spokane, Washington 99204

CONTACT
Keith Kirkbride
Director of Vocational Programs
(509) 456-2994

Description of Activity

These programs represent a unique collaborative effort between a community college and local industry. Each program was designed and implemented in such a way that the students are learning and working under actual industrial conditions. Placement within the field for which the student has been trained is 100 percent. The instructors of both courses have their own businesses and are true entrepreneurs within their respective fields.

Implementation Procedures

The stringed musical instrument repair program is one year in duration and is conducted similarly to an apprentice training program in that the students learn from journeymen within the trade. The custom saddle making program takes two years to complete and offers an Associate in Applied Science Degree to those students who successfully complete this unique program of instruction.

Contributions by Industry

In addition to providing instructional personnel for these programs industry also provides, in the case of the stringed musical instrument repair program, facilities, equipment, and materials.

Contributions by the College

The college reimburses where appropriate the cost of soft supplies and equipment, provides inservice training for the instructors, and provides instructors' salaries. The college also rents the facilities in which instruction is conducted.

Benefits to Industry

This is exemplified by the high placement rate for graduates of the individual programs. In addition, the cost of these training programs has decreased due to the collaborative efforts between industry and education.

Benefits to the College

Because of the relatively low number of students served by these programs, the college by itself would not have been able to provide them on a cost-effective basis. The result of these instructional programs is that each student will receive the most up-to-date training currently available. The graduates are highly skilled and are ready for immediate employment. The liaison between industry and the college provides for a better working relationship between these groups, as well as keeping the college abreast of new technology within industry.

Critical Elements for Success

Clear lines of communication between industry and education are vital to the success of these programs. The establishment of quality programs designed to meet the needs of industry in addition to the identification of qualified instructors from the industrial setting is the key to the success of both of these unique educational offerings.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

CONTRACT SERVICES FOR INDUSTRY

Power Plant Technology
Miles Community College
Miles City, Montana

Center for Industrial Development
Calhoun Community College
Decatur, Alabama

College Courses at a Penal Farm
State Technical Institute at Memphis
Memphis, Tennessee

Police Science and Private Security Training
Milwaukee Area Technical College
Milwaukee, Wisconsin

Shared Resource Program
Waukesha County Technical Institute
Pewaukee, Wisconsin

PROGRAM

POWER PLANT TECHNOLOGY

COLLEGE
Miles Community College
2715 Dickinson
Miles City, Montana 59301

CONTACT
John Koch
Director of Public Services
(406) 232-3031

Description of Activity

The college and a major power company have developed a two-year Associate of Applied Science Degree to provide entry-level skills in the field of coal-fired electrical generation. Available concentrations include: electrician training, instrumentation, operator training, mechanics, and business administration. The project is approved by the electrical workers union and counts toward apprenticeship time.

Implementation Procedures

At the request of the power company, the college developed the associate degree program. The curriculum was approved by the college, the electrical workers union, the State Board of Regents, and a project advisory committee consisting of representatives from power companies, a private training company, and the college.

Contributions by Industry

Industry contributes the time of its personnel training staff; the use of packaged training materials, classrooms, and equipment; and reimbursement of costs to participating students.

Contributions by the College

The college supports the time and expenses of its personnel in developing the program curriculum and in coordinating and evaluating the program. It also supplies access to academic classes required in the curriculum.

Benefits to the Industry

Industry benefits from the increased availability of skilled workers and the professional attitude the program encourages. Good public relations with the community and established links with educational institutions are long-term benefits.

Benefits to the College

The college is better able to provide training for residents of the area. The program generates on-campus enrollment, which is the basis for state funding. An additional benefit is the existence of a successful linkage with industry and the unions that can facilitate other cooperative efforts.

Critical Elements for Success

The initial recognition of mutual need and subsequent spirit of cooperation between the power company and the college are crucial. Interaction of the unions and the advisory committee in all aspects of the program is essential.

PROGRAM

CENTER FOR INDUSTRIAL DEVELOPMENT

COLLEGE
Calhoun Community College
P.O. Box 2216
Highway 31, North
Decatur, Alabama 35602

CONTACT
Thomas A. McLeod
Director
Center for Industrial Development
(205) 355-8280

Description of Activity

A unit of the technical college, the Center for Industrial Development, develops customized curricula at the request of business and industry to meet a specific technical or managerial training need. The Center has on-going or completed programs of study in apprenticeship-related training, first-level supervision training, specialized skill training, and secretarial and business training. In addition, the Center provides consultation and seminars and short courses on a variety of topics.

Implementation Procedures

The Center was instituted after extensive discussion with the industrial and business community on ways in which the college could better serve local needs. An advisory council of business and industry leaders assists the Center staff. Specific programs are developed following a request from a business or industry. The Center prepares a customized curriculum for the client and submits it for approval. Upon approval, the Center schedules the course and selects and hires instructors.

Contributions by Industry

Industry contributes tuition and, on occasion, classrooms, shop space, and equipment. Industry also encourages its personnel to apply for positions as part-time instructors.

Contributions by the College

The college provides the organization and administration of courses and programs, instructional staff and support staff, audiovisual media, classrooms, shop space, equipment, and materials.

Benefits to Industry

Industry obtains training that is economical, in-depth, broad in scope, and personalized to specific needs.

Benefits to the College

The college realizes positive public relations and additional student enrollment and funding. The program also helps the college to keep abreast of new technological advances.

Critical Elements of Success

The Center is dependent on continued good communication between its staff and industrial representatives. The success of specific programs hinges on clear and realistic identification of training needs, selection of qualified instructors, and delivery of quality programs.

PROGRAM

COLLEGE COURSES AT A PENAL FARM

COLLEGE
State Technical Institute at Memphis
5983 Macon Cove
Memphis, Tennessee 38134

CONTACT
Kenneth Eaton
Coordinator of Business, Industry, and Government Training
(901) 386-4391

Description of Activity

The college provides inmates at a local penal farm with college credit courses in subjects such as human relations and communications. A counseling component is provided by the penal farm.

Implementation Procedures

The original concept was developed and implemented through a grant from the Tennessee Employment and Training Council through CETA. The penal farm allows selected inmates to register for courses. Tuition and textbook costs are billed to the county government directly.

Contributions by Industry

The penal farm contributes classroom space, counseling services, tuition fees, and textbook costs.

Contributions by the College

The college supplies the instructors.

Benefits to Industry

The program assists the penal farm in its work of rehabilitating inmates before they are released.

Benefits to the College

The college obtains tuition and textbook fees and increased enrollment.

Critical Elements for Success

The original grant was instrumental in the development of the program. Proper selection and evaluation of the courses is essential.

PROGRAM

POLICE SCIENCE AND PRIVATE SECURITY TRAINING

COLLEGE
Milwaukee Area Technical College
1015 North 6th Street
Milwaukee, Wisconsin 53203

CONTACT
James F. Jansen
Supervisor/Coordinator
(414) 278-6607

Description of Activity

The college offers a recruit school for police; an annual inservice program for police; workshops for private security; and annual, specialized training, and associate degree curricula for each area.

Implementation Procedures

Through close liaison with the law enforcement and private security agencies, the college develops instructional modules and combines these into programs to fit the needs of its clientele. Other programs are regularly scheduled for general consumption.

Contributions by Industry

The agencies contribute time for employees to attend programs, classroom space, company equipment, and sometimes candidates for instructor positions.

Contributions by the College

The college contributes the time and resources necessary to develop and assemble modules of instruction.

Benefits to Industry

Industry receives superior quality training at a reasonable rate.

Benefits to the College

The college is able to counteract the effects of declining enrollment through pursuing a program that has the potential to supply training needs for an employee from job entry to retirement.

Critical Elements for Success

The college must be flexible in meeting time requirements, precise in answering specific training needs, and accountable in training results. Close communication with the industry is essential in maintaining credibility.

PROGRAM

SHARED RESOURCE PROGRAM

COLLEGE
Waukesha County Technical Institute
800 Main Street
Pewaukee, Wisconsin 53072

CONTACT
Richard J. Huber
Coordinator, Continuing
Education – Business
(414) 786-7352

Description of Activity

Through its Shared Resource Program, the college and a major industry cooperate in assessing training needs and providing noncredit technical and continuing education courses to serve these needs.

Implementation Procedures

The college and industry are partners in an agreement that specifies the responsibilities of each party. Industry and college personnel cooperate in selecting and scheduling course offerings.

Contributions by Industry

Industry contributes classroom space, lab facilities, career guidance, related curriculum materials, and tuition. Some company personnel serve as instructors during noncompany time.

Contributions by the College

The college supplies a coordinator for the program, training facilities and equipment as necessary, instructors, and materials.

Benefits to Industry

Industry receives the training necessary for its employees to improve job performance and to provide for potential advancement.

Benefits to the College

The college is able to serve the needs of a major industry in its area, to increase its utilization and enrollment, to reduce operational costs by using off-campus facilities and on-campus facilities at low-demand periods, and to develop a link with industry that validates other efforts.

Critical Elements for Success

Good communication with industry is essential. Assignment of a specific program coordinator to facilitate administration and communication is necessary.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

COOPERATIVE EDUCATION AND FIELD EXPERIENCES

Cooperative Work Experience Program
Lane Community College
Eugene, Oregon

Cooperative Education with Federal Agencies
Arizona Western College
Yuma, Arizona

Alternate Quarter Cooperative Education Program
J.F. Drake State Technical College
Huntsville, Alabama

Culinary Arts Cooperative Education Program
Johnson and Wales College
Providence, Rhode Island

Cooperative Education
Delgado College
New Orleans, Louisiana

PROGRAM

COOPERATIVE WORK EXPERIENCE PROGRAM

COLLEGE
Lane Community College
4000 East 30th Avenue
Eugene, Oregon 97405

CONTACT
Bob Way
Department Head
(503) 747-4501

Description of Activity

Through the Cooperative Work Experience Program, the college places students in career-related employment that complements their ongoing studies. The college-wide program has 1800 students working with 800 employers. The college is responsible for the awarding of credit, selection and placement of students, and the visitation of students at work sties.

Implementation Procedures

The program entails working closely with college faculty so that the curriculum schedule allows time for students to work off-campus. Prior job development is needed so that work sites are available for placement of students.

Contributions by Industry

Industry contributes facilities, equipment, and materials. Supervisory time of employees is also contributed.

Contributions by the College

The college supports staff time and travel expenses, and also the time employed in recruiting, selection of students, and placement.

Benefits to Industry

Industry is able to train potential employees to meet specific needs and to preview and recruit potential permanent employees.

Benefits to the College

The college is able to reduce the costs by using industry equipment, supplies, and floor space. Other benefits include donation of material to the college and contacts with available guest speakers.

Critical Elements for Success

The program's success hinges on the belief by the faculty that work experience is educational and the belief by industry that the program concept is valid. Support from industry in placing program students and support from the college in providing motivated instructors is essential.

PROGRAM

COOPERATIVE EDUCATION WITH FEDERAL AGENCIES

COLLEGE
Arizona Western College
P.O. Box 929
Yuma, Arizona 85364

CONTACT
Al Daniels or
Bob Wallace, Coordinators
of Cooperative Education
(602) 726-1000

Description of Activity

The college places students for work experience in positions with government agencies that relate to their major fields. Students complement a minimum of six credit hours in a degree program with on-site experience by writing and completing objectives for their participation in the program.

Implementation Procedures

The college establishes a contract with an agency, sells the program to on-line supervisors, identifies job sites, recruits and places the students, establishes measurable objectives, and evaluates student performance.

Contributions by Industry

Industry provides supervisory personnel, training time, equipment, world-of-work situations, and input through advisory committees.

Contributions by the College

The college contributes instructional personnel and coordinating personnel to work with the agencies and recruit, screen, and place students.

Benefits to Industry

Industry is afforded reduced training costs, a review of possible employees, and the productivity of students while they are on the job. The agencies are also able to have regular and meaningful contact with the college and to keep current with educational research.

Benefits to the College

The college is better able to serve its students and its community. Other benefits include decreased lab and lab instructor costs, and the opportunity to stay current with new industrial developments.

Critical Elements for Success

Convincing agencies, supervisors, and faculty of the program's merits underlies its success. Proper coordination, recordkeeping, and selection and screening of students are also essential.

PROGRAM

ALTERNATE QUARTER COOPERATIVE EDUCATION PROGRAM

COLLEGE
J.F. Drake State Technical College
3421 Meridian Street, North
Huntsville, Alabama 35811

CONTACT
Drexel E. Boothe
Dean of Students
(205) 539-8161

Description of Activity

In this cooperative education effort the student is provided with the opportunity to obtain relevant on-the-job work experience and given the opportunity to work with the most modern up-to-date equipment in an industrial setting. After an initial enrollment period of from three to four quarters, students may elect to enroll in the cooperative education option. Students who participate in this program alternate quarterly between work and school.

Implementation Procedures

The implementation process for cooperative education activities includes development of program objectives, and obtaining support from participating companies through a "Cooperative Education Agreement" that delineates general guidelines for operation of the program. In addition, specific activities such as job development and student recruitment are required.

Contributions by Industry

Industry contributes equipment, materials, and institutional staff.

Contributions by the College

The college provides students who have already secured basic training in an occupational area, in addition to supervision and evaluation of the students.

Benefits to Industry

Industry has the opportunity to work in conjunction with the educational institution, to train technicians who will have experience in that industry's jobs upon graduation from school. Cooperative education decreases an employer's training expenses, and increases the pool of available, highly trained personnel to assume jobs within the industrial setting.

Benefits to the College

Cooperative education creates a liaison between the college and industry, allowing the college to keep abreast of the constantly changing technology of industries within the community. The placement of students is also affected in a positive manner due to working relationships established through the cooperative education effort.

Critical Elements for Success

Critical elements for success of this cooperative educational effort include: defining each participant's responsibilities prior to beginning the educational process, maintaining two-way communication once the program is established, selecting students who are motivated to succeed in the programs, and providing adequate supervision of the students on the job.

PROGRAM

CULINARY ARTS COOPERATIVE EDUCATION PROGRAM

COLLEGE
Johnson and Wales College
8 Abbott Park Place
Providence, Rhode Island 02903

CONTACT
Gerald A. Fernandez
Coordinator, Cooperative Education
(401) 456-1008

Description of Activity

The two-year Culinary Arts program at Wales College represents a cooperative effort between higher education and industry. As part of the second year of instruction, the top one-third of the students participate in an internship program at participating restaurants within the community. This experience reinforces the theory taught in the classroom and gives the student actual work experience. While in this setting the student is paid and is evaluated by the employer.

Implementation Procedures

This program started in 1977 and utilizes a standard curriculum. The internship requires the following procedures: the participating restaurant must be approved by the college; the employer must agree to vary the student's work experience; students will be paid a wage commensurate with their abilities (this must be at the minimum wage level at least); the employer must complete evaluations of the student's performance; the employer reserves the right to terminate the student with just cause.

Contributions by Industry

Industry contributes a laboratory setting that includes instructors, equipment, materials, and reimburses students for their participation.

Contributions by the College

The college offers a direct contact for industry with future personnel. The college provides program guidelines, supervision, and career counseling for all students.

Benefits to Industry

Students who have participated in this cooperative education program have a tendency to return to the employers who provided them laboratory experience, thus giving industry ready-made employees who require no retraining. In addition, these students bring new techniques and methods to the marketplace.

Benefits to the College

Students earn a wage during the program that can help offset the cost of their education. Class sizes are smaller, thereby allowing instructors more time to spend with each student.

Critical Elements for Success

Among the elements behind the program's success are establishment and compliance to goals and objectives, appropriate college and employer supervision of students, establishment of criteria for both employer and student selection, maintaining communication between student, college, and employer.

PROGRAM

COOPERATIVE EDUCATION

COLLEGE
Delgado College
615 City Park Avenue
New Orleans, Louisiana 70119

CONTACT
Sylvia Dobard
Director, Cooperative Education
(504) 483-4616

Description of Activity

The college's cooperative education program integrates classroom theory with practical experience by providing students with specific periods of attendance at the college and specific periods of employment.

Implementation Procedures

Implementing cooperative education requires careful planning, institutional support, and competent staffing. The planning phase has three main interrelated components: stating program objectives, developing support for the program, and making programming decisions. Once the program is ready to be implemented, specific activities such as job development and student recruitment are required.

Contributions by Industry

Industry contributes expertise and provides training and wages.

Contributions by the College

The college provides for the supervision and evaluation of students.

Benefits to Industry

Students become familiar with employer practices and organization while they are still at a formative level. The program serves as an excellent source of temporary and potentially permanent employees. The infusion of new people provides new ideas and viewpoints that can be refreshing and stimulating. The cooperative program provides the company with a low-cost training program since the cooperative student generally earns a salary that is below the average salary paid to a graduate.

Benefits to the College

The establishment of a relationship with the cooperating organizations can reduce the "isolationism" of the college and result in a better rapport with the industrial community. The faculty can be kept up-to-date and stimulated by the interaction with industry. In certain instances cooperation with industry often has the advantage of utilizing modern facilities and equipment that are sometimes too costly for the college to supply. The placement of graduates of a cooperative program is much easier for the college because of their background and experience.

Critical Elements for Success

Advocacy and support from administrators and faculty members, sufficient financial support, cooperation with industry and governmental agencies, and adequate staff to properly conduct the program are critical elements in the program's success.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

ECONOMIC DEVELOPMENT SERVICES

Ohio Technology Transfer Organization
The Ohio State University and Eleven Technical Colleges
Columbus, Ohio

Industry-Education Council
Dutchess Community College
Poughkeepsie, New York

Training Program for New Regional Office Personnel
Santa Fe Community College
Gainesville, Florida

Industrial Training Service Contract
Chattanooga State Technical Community College
Chattanooga, Tennessee

PROGRAM

OHIO TECHNOLOGY TRANSFER ORGANIZATION

COLLEGE
The Ohio State University
1712 Neil Avenue
Columbus, Ohio 43210
and 11 Technical Colleges

CONTACT
Patricia B. Herdendorf
Administrator
(614) 422-5485

Description of Activity

The goal of the Ohio Technology Transfer Organization (OTTO) is to establish a network of community and technical colleges working in cooperation with The Ohio State University (OSU) to provide technical assistance as well as information and training that will help Ohio's small businesses learn about and use the results of modern technology. The eleven two-year colleges participating in this project are well suited to the technology extension service role. Within OTTO the university acts in concert with the two-year colleges as a "wholesaler" of technical assistance. Each two-year college has a technology transfer agent dedicated fulltime to OTTO to promote technology transfer activities.

Implementation Procedures

A phone call or letter to any of the OTTO agents or to the Program Manager at OSU from any business/industry requesting information is sufficient to begin the process. The project has at its disposal access to computerized data banks, contacts with the Federal Laboratory Consortium, and technical support from OSU and government agencies such as the Small Business Administration and the National Aeronautics and Space Administration (NASA).

Contributions by Industry

When one company can provide answers or products to answer another company's needs, the project endeavors to bring them together. Industry has also contributed assistance in the recruitment of students and instructors for particular courses.

Contributions by the College

The college contributes 50 percent of the cost of maintaining the OTTO offices on their respective campuses, in addition to contributing facilities, equipment, and materials to implement programs.

Benefits to Industry

The goal of the OTTO organization is to provide business and industry with information and expertise that will permit them to start, maintain, or expand their businesses in Ohio. Help can be advice, technical assistance, managerial assistance, and course offerings.

Benefits to the College

By being members of the organization the OTTO colleges become more visible in their communities and acquire a greater reputation for public service. This in turn can lead to an increase in student enrollment and an expansion of course offerings.

Critical Elements for Success

This is a new and ongoing program whose success will ultimately depend upon how effective its service to industry becomes. It has the full support of the Ohio Board of Regents, State Legislature, and the private sector.

PROGRAM

INDUSTRY-EDUCATION COUNCIL

COLLEGE
Dutchess Community College
Pendell Road
Poughkeepsie, New York 12601

CONTACT
Lawrence H. Monaco
Dean, Curriculum and Instruction
(914) 471-4500

Description of Activity

A county-wide educational cooperation project that involves industry, the college, the Chamber of Commerce, Board of Cooperative Educational Services (BOCES), unions, a CETA-sponsored private industry council, and the State Department of Education. The goal of this effort is to make the educational resources of the county readily available to industry for developing jobs in the private sector, for attracting new business into the county, and for retaining existing businesses. The necessary facilities, equipment, and personnel for instructional programs designed to support this effort are shared by members.

Implementation Procedures

The Industry-Education Council, made up of executive-level personnel from business, industry, unions, and education, acts as a policy board for the county-wide Industry–Education Cooperation Project.

Contributions by Industry

In one program, local manufacturing companies are contributing personnel for program planning, participant selection and certification, and instruction. The companies also provide access to their plants for on-the-job training and instruction. In another program, internship sites are provided by a local industry, a state government, and a local government office.

Contributions by the College

The college provides classrooms and machine shops, teaching and teacher/program certification. College personnel also serve on the program development and policy supervision bodies.

Benefits to Industry

Industry is receiving moderate cost training that will provide it with a labor pool of skilled workers not currently available. This will enable it to increase production and revenue, and make possible expansion of existing product lines.

Benefits to the College

The college attracts additional students. It also modifies existing programs or develops new programs or more flexible delivery mechanisms in meeting the immediate and employment-related needs of business and industry.

Critical Elements of Success

Cooperation and vision among the executives on the Industry–Education Council for funding, program development, and supervision of programs designed to meet the needs of business and industry are the critical elements for success.

PROGRAM

TRAINING PROGRAM FOR NEW REGIONAL OFFICE PERSONNEL

COLLEGE
Santa Fe Community College
3000 Northwest 83rd Street
Gainesville, Florida 32602

CONTACT
Leon Ellis
Director, Business Education
(904) 377-5161

Description of Activity

Through this program industry and higher education worked together to provide instruction for new employees of a national insurance company locating a new regional office near the college. Approximately one hundred and sixty-five persons received free training in the basics of auto and fire insurance policies. The majority of the equipment utilized in this training effort, including sophisticated typewriters and computers, was financed by a grant from the Vocational Education Division of the Florida State Department of Education.

Implementation Procedures

The following procedures were followed to implement the program: numerous meetings between representatives from the college and the insurance company to discuss facilities and equipment utilization to conduct the program; request to and permission from the college board of trustees to enter into this educational endeavor; application for funding to implement the program; and adherence to college policies regarding procurement of furniture, equipment, etc.

Contributions by Industry

Industry provided instructional staff and curriculum materials.

Contributions by the College

The college provided facilities, furniture, and equipment.

Benefits to Industry

Local citizens were trained for immediate employment within the regional offices of the company. Rental fees were not assessed for the facilities to conduct this program.

Benefits to the College

One hundred and sixty-five additional jobs were provided in the county, which will mean additional tax dollars for the school district. The trainees generated full-time equivalency student dollars to the college. In addition, an ongoing working relationship has been initiated between the college and industry.

Critical Elements for Success

The working relationship established between the college and industry was the most critical element to the success of this project.

PROGRAM

INDUSTRIAL TRAINING SERVICE CONTRACT

COLLEGE
Chattanooga State Technical Community College
4501 Amnicola Highway
Chattanooga, Tennessee 37406

CONTACT
David Haddock
Associate Dean
Continuing Education
(615) 622-6262

Description of Activity

The college, State of Tennessee Industrial Training Service, and a new or expanding industry cooperate to prepare a trained and qualified work force. The college has presented Supervisory Development Training, Job Instructor Training, and Fork Lift Operator Training. This is an economic development thrust in that the state, college, and community assist new or expanding industry to acquire a trained work force.

Implementation of Procedures

The new or expanding industry contacts the State of Tennessee Industrial Training Service which then asks the college to provide training.

Contributions by Industry

Industry contributes classroom space and the time of personnel attending the training program.

Contributions by the College

The instructor, supporting services, and instructional materials are provided by the college.

Benefits to Industry

The industry benefits in not having to develop, equip, and staff programs. In addition, the professional background and experiences of the college vocational personnel and the resulting training contributes to the development of better trained and high quality workers.

Benefits to the College

The financial benefits to the college are that the state assumes the college's costs (travel, materials, instructor's salary) for training. Further, the school gains educational benefits through its constant contact with industry.

Critical Elements for Success

The critical elements for the success of this program are an outstanding faculty to conduct training, and flexibility and quick response in meeting industry needs.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

FACULTY "RETURN TO INDUSTRY" PROGRAMS

Personnel Exchange Program
Orangeburg-Calhoun Technical College
Orangeburg, South Carolina

Staff Development Through Return to Industry
Hagerstown Junior College
Hagerstown, Maryland

Return to Industry Program
Spartanburg Technical College
Spartanburg, South Carolina

Project Update
Central Piedmont Community College
Charlotte, North Carolina

PROGRAM

PERSONNEL EXCHANGE PROGRAM

COLLEGE
Orangeburg-Calhoun Technical College
P.O. Box 1767
Orangeburg, South Carolina 29115

CONTACT
Patrick Black
Chairman
Technology Division
(803) 536-0311

Description of Activity

The program allows instructors at the college to enter industry during the summer months while retaining their position as employees of the college. In return, industrial personnel teach quarterly courses at the college while remaining industrial employees.

Implementation Procedures

An agreement is drawn up between the college, the industry, and the participants. The instructor working in industry is assigned a work area. The industrial employee is assigned a course outline by the college. Service and not money is the basis for exchange.

Contributions by Industry

Industry contributes access to production lines and processes for participating instructors. It also contributes the time of personnel assigned to teach a course.

Contributions by the College

The college contributes access to the educational setting for industrial employees. It also contributes the labor of one of its employees in industry for a period of time.

Benefits to Industry

Industry benefits by having access to an additional person with academic training in a related field of study.

Benefits to the College

The college benefits by having instructors who are current in their knowledge of technology and its applications.

Critical Elements for Success

Cooperation between the college and a participating industry is essential. A written agreement should be signed for each exchange, and an understanding of the legal ramifications of the program is needed.

PROGRAM

STAFF DEVELOPMENT THROUGH RETURN TO INDUSTRY

COLLEGE
Hagerstown Junior College
751 Robinwood Drive
Hagerstown, Maryland 21740

CONTACT
Michael H. Parsons
Dean of Instructional Affairs
(301) 790-2800

Description of Activity

Occupational faculty members work in industry to reinforce, update, or expand the skills and knowledge required to keep current in their professions. Through the five-year duration of the program, the college hopes to update faculty in all fourteen of its occupational programs.

Implementation Procedures

Instructors desiring to participate in the program locate a host industry and submit proposals that provide the details of their intended project. On-site assessments by the instructors' dean or division heads are followed by evaluation reports by the on-site supervisor. Instructors then prepare plans detailing how the return experiences will be incorporated into their teaching.

Contributions by Industry

Industry contributes personnel time to cooperate with the college in providing return experiences.

Contributions by the College

The college contributes administrative time and the instructional time of personnel participating in the program.

Benefits to Industry

Industry receives the services and advice of participating instructors. An important benefit is the increased understanding between the college and industry that occurs following an experience. Finally, the industry benefits through the updated training that students of participants receive.

Benefits to the College

The college is able to update its occupational staff's training, and consequently to offer current experiences to its students. Communication links established with participating industries are excellent for public relations and student placement.

Critical Elements for Success

Funding to conduct the program is essential. Careful assessment of faculty proposals and post-return implementation plans is necessary. The program also requires close communication between the college, its faculty, and host industries.

PROGRAM

RETURN TO INDUSTRY PROGRAM

COLLEGE
Spartanburg Technical College
P.O. Drawer 4386
Spartanburg, South Carolina 29302

CONTACT
Jane Reece
Project Developer
(803) 576-5770

Description of Activity

Instructors at the college are released from their teaching duties for periods of from two to fifteen weeks in order to work in industrial, business, or health settings. Qualified substitutes maintain their instructional responsibilities while they participate in the program.

Implementation Procedures

Instructors who wish to participate locate an appropriate placement and make a list of objectives of the experience. After obtaining permission from the dean, the instructor signs an agreement form with the industry. Participants do not receive salary from the industry.

Contributions by Industry

The industry provides a setting for the return experience and personnel to help the participant.

Contributions by the College

The college supplies substitutes for the instructors and a temporary source of labor to the industry.

Benefits to Industry

The industry obtains students who are current in the technical training that their instructors provide.

Benefits to the College

The college is able to maintain a faculty that is current in new trends in technology.

Critical Elements for Success

A grant enables the college to provide pay for substitutes. Support from the participating industries allows the program to function.

PROGRAM

PROJECT UPDATE

COLLEGE
Central Piedmont Community College
P.O. Box 4009
Charlotte, North Carolina 28204

CONTACT
Carl E. Squires
Vice President
Career Programs
(704) 373-6860

Description of Activity

Instructors at the college observe in industry for a ten-week period. Substitutes are hired to assume their teaching responsibilities during the observation time. Following the observation, the instructor prepares an update booklet on the industry for dissemination within the college and nationally. Updates in twenty-six occupational fields are planned.

Implementation Procedures

The college seeks a mini-grant from industry to pay the substitute salary and publication costs for an update project. A faculty member willing to participate and an industry willing to offer a placement are identified. Following the observation period, the booklet on current practices is written.

Contributions by Industry

Industry contributes mini-grants for the update and personnel time in helping instructors observe in industry.

Contributions by the College

The college provides administrative coordination, travel costs, and some printing costs.

Benefits to Industry

Industry receives employees who are more current in their fields because they have been taught by instructors who have either been in industry recently or have benefited from reading the booklet of a colleague who has had a recent work experience.

Benefits to the College

The college benefits by maintaining better prepared instructors.

Critical Elements for Success

Initial acquisition of project funds is important, as are the continued acceptance of the project by industry and faculty.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

PROGRAM DEVELOPMENT SHARING

Irrigation Technology Program
Walla Walla Community College
Walla Walla, Washington

Nuclear Technology Training
Columbia Basin College
Pasco, Washington

Oilfield Training Center
Eastern New Mexico University
Roswell, New Mexico

Marine Equipment Loan
Clatsop Community College
Astoria, Oregon

Heavy Equipment Training
Williamsport Area Community College
Williamsport, Pennsylvania

PROGRAM

IRRIGATION TECHNOLOGY PROGRAM

COLLEGE
Walla Walla Community College
500 Tausick Way
Walla Walla, Washington 99362

CONTACT
Greg Farrens
Instructor
(509) 527-4233

Description of Activities

Local industry provides equipment, shop facilities, and personnel to train students in the college in electricity/electronics as they relate to irrigation. Students are released to industry during times of the year when employers need technicians most. Equipment and shop space is used on a shared-time basis.

Implementation Procedures

The college establishes expectations with industry and sets up field experience training stations. Arrangements for utilization of facilities and equipment are made by both parties. Program approval is required by the State Board for Community College Education.

Contributions by Industry

Industry contributes training aids, equipment, the facilities for the electrical component of the program, utilization of an instructor on a part-time basis, and field training stations. Industry also participates on an advisory committee that solicits support from industry for the development of the program.

Contributions by the College

The college contributes the lead instructor/coordinator for the program, the facilities for most program components, and administration and support services.

Benefits to Industry

Industry receives trained technicians when they are needed. The program also is a source of continuing education for current employees.

Benefits to the College

The college is able to offer a program with a minimum of capital outlay, to provide realistic field experience to students, and to afford instructors the opportunity to remain current in the field through continuous contacts.

Critical Elements for Success

Industry support and guidance in developing the program and curriculum is imperative. Placing the field experience phase between the first and the second year of instruction answers many needs. Careful placement of students and coordination between industry and the college is essential.

PROGRAM

NUCLEAR TECHNOLOGY TRAINING

COLLEGE
Columbia Basin College
2600 North 20th Avenue
Pasco, Washington 99301

CONTACT
William Evans
Associate Dean
Occupational Education
(509) 547-0511

Description of Activity

The college and a local nuclear industry cooperate to offer an associate degree program in the field of nuclear technology. Students have access to equipment and facilities at the nuclear reactor site.

Implementation Procedures

The program is the result of requests by the nuclear industry and the encouragement of the State Board for Community College education. An advisory committee of representatives from industry assisted in developing and planning the program. A federal grant covered initial start-up costs. The industry assists the college in recruiting students.

Contributions by Industry

Industry contributes assistance in the development of curriculum, recruitment of students, securing of equipment, arranging of tours of the nuclear facility, and arranging summer employment for the instructors. The industry also helped to secure the original federal grant needed by the program.

Contributions by the College

The college contributes equipment, instructional personnel, supplies, and facilities.

Benefits to Industry

Industry obtains trained personnel at a reasonable cost.

Benefits to the College

The college is able to offer a specialized high-demand program that could not be offered using only college facilities. The college also benefits from the assistance it receives in terms of advisory committee activities and instructional resource personnel and equipment.

Critical Elements for Success

The good working relationship of the college and the industry through the advisory committee is the key element of the program's success.

PROGRAM

OILFIELD TRAINING CENTER

COLLEGE
Eastern New Mexico University
Roswell Campus
Box 6761
Roswell, New Mexico 88201

CONTACT
Leslie V. Langston
Chairman
(505) 347-5441

Description of Activity

Industry shares equipment, personnel, and funds with the college to train technicians in petroleum production. Seminars and short-term courses are also available through the college's Oilfield Training Center Program.

Implementation Procedures

An advisory group of industry and college representatives establishes implementation procedures. Industry reviews the program to furnish supplies and personnel and to review procedures and materials for instruction.

Contributions by Industry

Industry supplies the equipment and information on procedures and techniques needed by the program. It furnishes an administrative assistant and has donated funds for a training center building.

Contributions by the College

The college contributes instructional facilities, staff, and materials. It performs recordkeeping and student recruitment.

Benefits to Industry

Industry receives a trained local labor force and continuing education of its existing employees through seminars offered by the college.

Benefits to the College

The college obtains funds to construct new facilities, donations of equipment and materials from industry, continuing assistance in curriculum development, and industrial seminars to upgrade instruction.

Critical Elements for Success

A needs survey, a meeting on industry needs, and realignment of educational objectives to meet these needs gave the program firm footing. Cooperation between industry and education in establishing training objectives and coordinating the program is a continual requirement.

PROGRAM

MARINE EQUIPMENT LOAN

COLLEGE
Clatsop Community College
16th and Jerome
Astoria, Oregon 97103

CONTACT
David W. Phillips
Assistant Dean of Instruction
(503) 325-0910

Description of Activity

The college provides training to captains and alternate captains of trawlers (commercial fishing boats), using state-of-the-art equipment donated or loaned by marine manufacturers.

Implementation Procedures

The college hires an instructor and runs approximately ten one-week training seminars for fishermen during the school year.

Contributions by Industry

Industry donates or loans electronic marine equipment.

Contributions by the College

The college supplies facilities and staff.

Benefits to Industry

The marine equipment industry benefits by obtaining a knowledgeable clientele who purchases and uses equipment intelligently. The industry also realizes tax advantages from its donations.

Benefits to the College

The college is able to train students on the most modern equipment without having to support the high capital outlay necessary to purchase and replace equipment.

Critical Elements for Success

The instructor must provide and deliver relevant instruction in order to serve the needs of industry, the college, and the students.

PROGRAM

HEAVY EQUIPMENT TRAINING

COLLEGE
Williamsport Area Community College
1005 West 3rd Street
Williamsport, Pennsylvania 17701

CONTACT
Joseph G. Sick
Director
Earth Science Division
(717) 547-1661

Description of Activity

The college and the heavy equipment industry cooperate to provide students with training on the use and repair of heavy equipment, with field trips, and with instruction on heavy equipment operation.

Implementation Procedures

Active communication and advanced planning address program needs. An advisory committee facilitates sharing between the college and industry.

Contributions by Industry

Industry contributes the use of heavy equipment, special tools for repair equipment, and the transporting of equipment to and from job sites. Personnel from industry assist in diagnosing equipment failures and provide demonstrations and field trips.

Contributions by the College

The college contributes facilities and instruction.

Benefits to Industry

Industry is able to obtain the trained employees it needs after having had the opportunity to observe potential employees in the program.

Benefits to the College

The college realizes savings in being able to operate a heavy equipment program without having to spend prohibitive amounts of money.

Critical Elements of Success

Good rapport and honesty between the college and industry are responsible for the success of the program.

DESCRIPTIONS OF MODEL EXEMPLARY PROGRAMS

SPECIALIZED PROGRAMS

Credit for Learning in a Noncollegiate Setting
Dallas County Community College District
Dallas, Texas

Business Aviation and Professional Pilot Associate Degree Program
Inver Hills Community College
St. Paul, Minnesota

Technical Scholarship Program
Greenville Technical College
Greenville, South Carolina

Common Client Project
College of the Mainland
Texas City, Texas

Mobile Occupational Training
North Dakota State School of Science
Wahpeton, North Dakota

PROGRAM

CREDIT FOR LEARNING IN A NONCOLLEGIATE SETTING

COLLEGE
Dallas County Community College District
701 Elm Street
Dallas, Texas 75202

CONTACT
Donald Lindahl
Assistant Director of
Occupational Education
(214) 746-2449

Description of Activity

This program exemplifies a cooperative effort between a community college system and an international restaurant chain. Under specific guidelines the community college can award credit for prior learning and/or learning occurring in a noncollegiate setting. This nontraditional policy prompted the restaurant chain to submit for approval its management program. After several months of review and assessment by the business management faculty at the college, it was decided that participants in the program can receive fourteen equivalent credits, which can be applied to either a Small Business Management or a Mid-Management Associate Degree.

Implementation Procedures

The major implementation procedure was a review of the training program curriculum and then agreement as to which portions would be allocated transferable college credit.

Contributions by Industry

Through its very extensive management training program the restaurant chain provides all of the equipment, facilities, and personnel necessary. This program is open to the firm's management development trainees from across the nation, and all expenses for tuition and books are covered by industry.

Contributions by the College

The college grants fourteen credits and/or four courses within the management associate degree program.

Benefits to Industry

Industry receives well-trained employees, who are highly motivated and will in turn develop profits for the industry.

Benefits to the College

Through this joint effort it is hoped that more management students will be attracted to the community college system. This should increase proportionately the numbers of students in advanced courses within the management associate degree programs.

Critical Elements for Success

The most critical element for success of this program was the agreement of the community college system to recognize industry's management program as viable and accept it as equivalent to part of its own program. Another critical element to the success of the program is joint publicity. Both the college and industry have agreed to cooperate in publicizing the involvement of both agencies in this program.

PROGRAM

BUSINESS AVIATION AND PROFESSIONAL PILOT ASSOCIATE DEGREE PROGRAMS

COLLEGE
Inver Hills Community College
8445 College Trail
St. Paul, Minnesota 55075

CONTACT
Hope Isaacson
Associate Dean of Instruction
(612) 455-9621

Description of Activity

Representatives from industry and the college have cooperatively designed two associate degree programs in the aviation field. The Business Aviation Program and the Professional Pilot Program prepare the students for required licensing exams, as well as for additional career options in aviation.

Implementation Procedures

The college contracts with a private aviation company to provide flight training. Students registered in the college's program take their flight courses at the company, which bills the college upon completion of the course and successful FAA examinations.

Contributions by Industry

This collaborative educational program requires that students attend classes in two locations, the airport and the community college. Industry provides the airplanes, certified flight instructors, as well as insurance coverage for equipment, personnel, and students while the program is in session.

Contributions by the College

The college provides the additional course materials in the associate degree programs. Supervision of all educational aspects of the programs, including the flight lab courses taught within the industrial setting, is provided by the college.

Benefits to Industry

This program offers in-depth, personalized training for students interested in aviation careers. Industry benefits in that increased numbers of students are enrolled in flight training, which provides for highly trained personnel for job placement. High quality flight instructors are attracted to this program because of its exemplary nature and the ability of the instructors to remain certified in this highly technical field.

Benefits to the College

Because of this cooperative effort between industry and higher education, a program that would be cost-prohibitive to the college to sponsor individually has been made available. The uniqueness of this program has attracted increased numbers of students to the college, and serves to keep the institution abreast of the constantly changing technology of this field.

Critical Elements for Success

The critical aspect of these programs was industry's recognition that education does play a vital role in the field of aviation, and the college's willingness to enter into a contract with a profit-making organization to provide a laboratory setting. This program was made possible because of the dedication of both industry and the community college. Both entities donated untold time and effort to insure its success.

PROGRAM

TECHNICAL SCHOLARSHIP PROGRAM

COLLEGE
Greenville Technical College
P.O. Box 5616
Greenville, South Carolina 29606

CONTACT
Marty Jensen
Director
(803) 242-3170

Description of Activity

This is a three-year program leading to an Associate of Applied Science Degree. Currently twenty companies are involved in the instruction of approximately eighty students. This educational endeavor links the classroom and the industrial settings together in such a way that the work atmosphere is recreated in the laboratory setting at the college. Industrial personnel are utilized to teach in some phases of classroom instruction, further enhancing the link to the industrial setting.

Implementation Procedures

Companies commit a specified number of slots for program participants. Students apply to the program and are screened by the Technical Scholarship staff. Applicants are then interviewed by the participating industries and those selected are awarded scholarships. If selected by more than one company, the student makes the final choice. While on the job the student is paid an hourly wage. The program's director and coordinators are reimbursed by the college, but work within the industry, as well as implement training programs for the students.

Contributions by Industry

Industry contributes instructors, shop space, equipment, and materials. Approximately $15,000 per student is also provided to cover the costs of tuition, fees, and books.

Contributions by the College

The college contributes a director and instructional staff, counseling services on an individualized and group basis, tutoring, and one coordinator for each forty students.

Benefits to Industry

The community is being provided with a skilled and technically trained labor force from which it can draw in the future. The individual industries involved in this training have contributed to curriculum content; therefore, the students are trained to their needs.

Benefits to the College

Students who could not afford to attend college are provided scholarships by industry. This attracts other students to the institution. This kind of industrial support makes it easier to obtain funding for equipment, which can be an expensive procurement.

Critical Elements for Success

This program reflects a cooperative effort between the college, the chamber of commerce, and twenty community industries. It fills a need for technically trained people that heretofore had not been satisfied. The school administration, industry executives, and the community have responded most favorably with interest and support.

PROGRAM

THE COMMON CLIENT PROJECT

COLLEGE
College of the Mainland
8001 Palmer Highway
Texas City, Texas 77591

CONTACT
Althea Choates
Counselor
(713) 938-1211

Description of Activity

The Common Client Project represents an effort to focus the resources of various community agencies and higher education on the needs of the individual student. It is the purpose of this project to work cooperatively with appropriate individuals and organizations within the community to provide the common client or student with an individualized educational plan.

Implementation Procedures

The college or one of the participating agencies request that an individual be enrolled in the Common Client Project. This decision is prompted by an agency's belief that it does not possess the total resources required to help the individual become successful. The agency contacts the Technical Vocational Counselor who arranges a meeting between industrial and educational representatives to develop an educational plan. This plan is signed by all parties, and periodic meetings are held to evaluate progress and discuss changes if appropriate.

Contributions by Industry

Industry is contributing human resources, services, materials, financial resources, and years of experience in dealing with special client populations.

Contributions by the College

The college is contributing the organization, administration, and positions for the instructional staff for this project. Student support and counseling services are also offered.

Benefits to Industry

The Common Client Project brings together the resources of the community both industrial and educational, to help meet special training needs. The program obviates the need for community agencies to set up separate and costly education programs. Their resources can then be utilized for outreach, referral, specialized counseling, and other rehabilitation services of a noneducational nature.

Benefits to the College

The college's resources can be devoted to education and training programs. Further, the institution can have significant impact on the educational needs of populations within its district.

Critical Elements for Success

This collaborative effort requires that all of the participating agencies believe in the goals of the project. The agencies must accept the college's desire to assist and the college must acknowledge the expertise that exists within the industrial setting.

PROGRAM

MOBILE OCCUPATIONAL TRAINING

COLLEGE
North Dakota State School of Science
800 North 6th Street
Wahpeton, North Dakota 58075

CONTACT
James A. Horton
Vice President for Academic Affairs
(701) 671-2112

Description of Activity

This program utilizes several mobile trailers equipped with the latest tools and equipment to deliver occupational training to the citizens of rural North Dakota. The sponsor of the program is Job Service, working in cooperation with the North Dakota State Board for Vocational Education, and is funded by the Comprehensive Employment Training Act (CETA). Program objectives include: to upgrade adults in public service careers through the North Dakota CETA project, to provide training for individuals who are entering public service careers in occupations that provide opportunities for permanent employment in the private sector, to provide short-term educational and training opportunities for new and emerging industries within the state in cooperation with other human resource training agencies, and to enable rapid response training time to the ever-changing needs of business and industry by being able to set up quickly needed training programs at any location.

Implementation Procedures

The project coordinator is responsible for the overall management of the Mobile Occupational Training Program including: day-to-day supervision of the program, receiving and processing requests for training, prioritizing and scheduling the delivery of services at various training sites, and coordinating service delivery activities with Job Service North Dakota and other agencies and organizations as appropriate. A representative advisory committee provides suggestions for the program. Application for funding is made on an annual basis. The length of each training program is determined by the individual student's capabilities and the requirements of the anticipated job.

Contributions by Industry

Industry contributes tuition for the students when appropriate. Because this program is funded by CETA, contributions by industry at this time are limited.

Contributions by the College

The college contributes instructional staff, curriculum, and supervision and administration for this program.

Benefits to Industry

The benefit to industry is the economical, personalized training of students who will assume positions within the industrial setting.

Benefits to the College

The college benefits from the positive public relations aspect of the program and is able to meet its statewide mandate to provide training.

Critical Elements for Success

To insure high-quality training, careful attention must be given to individual needs in the planning of a training program.

CHAPTER 4

GUIDELINES FOR INDUSTRY-EDUCATION COOPERATION

The reports of the many exemplary programs and practices of industry and education collaboration across the country were analyzed to ascertain what made them successful, the common elements that successful programs shared, and the distinct qualities of successful programs. The practitioners involved with these programs were asked on the questionnaire to identify what they considered to be the critical elements for success in their programs. From this body of information, the following guidelines have been formed to help other colleges who wish to implement new collaborative efforts with industry or expand present efforts for their mutual educational and financial benefits.

1. **There must be good, clear communication between key persons in industry and education.** This good communication requires that the persons in industry and education understand each other's roles and responsibilities and what each can offer.

2. **Excellence in teaching is essential.** The instructor must have knowledge of the business/industry and know how to gain the respect of and relate to the worker-students.

3. **There must be institutional flexibility in meeting the needs of industry.** There must be flexibility in scheduling courses, in assigning faculty, and in designating locations where courses can be offered. Program times, length, and location must be consistent with user hours and needs. Flexibility is needed also in selecting the mode of instruction, i.e., the delivery system.

4. **Programs offered must be of high quality.** When the college provides courses for industry, the programs must be up-to-date, relevant, and of high quality. It is particularly effective when the courses are specifically tailored to the needs of the company. All parties should agree on course content.

5. **Good, active advisory committees are important.** Industry's support and guidance in developing and maintaining programs are essential. There must be willingness of key industry personnel to volunteer time and resources.

6. **Education should have a quick response time in meeting industry needs.** This requires institutional flexibility and the knowledge and skill of involved college personnel. Short-term and modular courses can help provide quick delivery and successful outcomes.

7. **There must be recognition of mutual need.** To warrant the time, effort, and resources required for collaboration, the need and benefits must be clearly perceived. The vision and persistence of interested parties is required. It takes the dedication of someone in both education and industry to make it work.

8. **The support of administrators and faculty within the college is required to successfully serve industry.** Administrators and faculty must see this as part of their institutional mission and recognize the benefits.

9. **Careful and thorough planning in each cooperative effort is essential.** A good survey of industrial needs and a realignment of educational objectives to meet those needs contribute to serving industry successfully. By careful planning, return on effort is maximized.

10. **A clearly written agreement or contract helps achieve successful completion of joint endeavor.** When the duties and responsibilities of each party are clearly delineated, misunderstandings are reduced and performance is improved.

11. **There should be continued evaluation of the program to update and improve it.** By assessing each program as it progresses and at the end of the course of study, content, procedures, and management of effort should improve.

APPENDIX A

REPORT OF NEEDS-SENSING WORKSHOP

NEEDS-SENSING WORKSHOP

POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

Project Director: Catharine P. Warmbrod

The National Center for Research in Vocational Education
The Ohio State University
Columbus, Ohio

April 15-17, 1980

NEEDS-SENSING WORKSHOP

The purpose of the Needs-Sensing Workshop was to identify the priority needs of postsecondary occupational education and then develop a list of research and development topics based on those needs. One or two of those topics would then be selected to be addressed in the resource handbook to be developed in the project.

Toward this end, ten persons were to be selected to participate in the workshop and provide the outcomes. Since the results would be highly dependent upon the persons selected, the criteria for their selection was carefully established. It was important that the participants be recognized leaders knowledgeable of two-year colleges' needs on a national basis. Geographical diversity and representation from different sizes and kinds of colleges, as well as persons in different roles, were necessary to provide a full range of perceptions. Leadership from the major organizations serving postsecondary were to be represented, and the ten participants were to include women and minorities. The full list of criteria and the list of participants are presented in figures 1 and 2.

FIGURE 1

CRITERIA FOR SELECTING TECHNICAL ADVISORY PANEL

POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

1. Must be knowledgeable of two-year colleges' needs/problems on a national basis.
2. Must have provided recognized leadership in postsecondary vocational education.
3. Should be selected from diverse sections of the country.
4. Should include large city/county systems, suburban community/technical colleges, and small rural colleges.
5. Should represent leadership or staff from the following organizations:
   a. American Association of Community and Junior Colleges
   b. Council on Occupational Education
   c. American Vocational Association Technical Education Division
   d. American Technical Education Association
6. Should include someone with state-level responsibilities for two-year college.
7. Should include someone from a university Higher Education Department who has responsibility for preparing persons to work in the two-year college.
8. Should represent minorities and women.

FIGURE 2

Technical Advisory Panel
Postsecondary Occupational Education Project

Dr. John Grede, Vice-Chancellor for Career and Manpower Programs
City Colleges of Chicago
180 North Michigan Avenue
Chicago, IL 60601

Dr. Warren Groff, Vice-President for Academic Affairs
North Central Technical College
2441 Kenwood Circle
P. O. Box 698
Mansfield, OH 44901

Dr. Nila Hibdon, Director of Occupational and Vocational Education
Metropolitan Community Colleges
560 Westport Road
Kansas City, MO 64111

Dr. James L. Hoerner, Associate Professor
V.P.I. & S. U.
Room 240
U.C.O.B.
Blacksburg, VA 24061

Mr. James A. Horton, Vice-President for Academic Affairs
North Dakota State School of Science
800 North 6th Street
Wahpeton, ND 58075

Mr. Jack Liles, Vice-President for Instruction
Linn-Benton Community College
6500 S.W. Pacific Boulevard
Albany, OR 97321

Dr. Jean Netherton, Provost
Alexandria Campus
Northern Virginia Community College
Alexandria, VA 22041

Ms. Constance D. Sutton, Vice-President for Programs
American Association of Community and Junior Colleges
One Dupont Circle, N.W.
Washington, DC 20036

Dr. Fred Wellman, Executive Director
Illinois Community College Board
3085 Stevenson Drive
Springfield, IL 62703

Mr. Charles O. Whitehead, President
State Technical Institute at Memphis
Memphis, TN 38134

The objectives of the workshop and the workshop outcomes are presented below, followed by the workshop agenda in Figure 3.

Workshop Objectives

1. To identify societal forces impacting on the two-year college.
2. To identify desired institutional response to these societal changes.
3. To identify major problems/needs in postsecondary vocational education by noting the gaps between the present state and the desired state.
4. Within the identified problem areas, to focus on topics of need for research and development.
5. List the high priority topics from which one or two will be chosen to be addressed in the resource handbook to be developed in this project.

Workshop Outcomes

Based upon the objectives of the workshop, the following are outcomes of the workshop:

1. A list of societal forces impacting on the two-year college
2. A list of good institutional responses to these societal changes
3. Identification of priority needs of postsecondary occupational education
4. A list of research and development topics growing out of the identified needs

FIGURE 3

NEEDS-SENSING WORKSHOP
POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

Agenda

Tuesday, April 15, 1980

8:15	Transportation to National Center (from Stouffer's lobby)
8:30	Coffee and Donuts
8:45	Welcome and Introductions
9:30	Overview of Workshop
10:00	Full Group Work Session *Identifying Societal Forces Impacting on the Two-Year College*
11:30	Break for Lunch
12:00	Lunch at OSU Golf Course
1:30	Full Group Work Session *(Continue to identify societal changes impacting on postsecondary education)*
2:30	Small Group Work Session *Identifying Good Institutional Responses to these Changes*
4:30	Adjourn
6:00	Transportation to Dinner
6:30	Dinner at One Nation

Wednesday, April 16, 1980

8:15	Transportation to National Center
8:30	Full Group Session *Reports from Small Groups (Consolidate findings)*
9:30	Small Group Work Session *Look at the Gaps Between Where We Are and Where We Ought to Be* to Identify Needs
11:30	Break for Lunch
12:00	Lunch at Ohio Union
1:30	Small Group Work Session *Continue to Identify Needs*
2:30	Full Group Session *Reports from Small Groups on Identified Needs* *Prioritize Needs*
4:30	Adjourn
6:00	Pick up at Stouffers for dinner-theatre at Faculty Club

FIGURE 3 (continued)

Thursday, April 17, 1980

8:15	Transportation to National Center
8:30	Small Group Work Sessions *Identifying Research and Development Topics from the Priority Needs*
12:00	Lunch – Catered
1:00	Full Group Session *Finalize List of Research and Development Topics*
2:30	Adjourn

Societal Forces Impacting on the Two-Year College

Prior to the workshop the participants were given the following material to read:

> Watson, Norman E. *The Community College in the 1980s: Promises and Perils.* Paper presented at the 60th AACJC Annual Convention in San Francisco, April 1, 1980.
>
> Van Ausdle, Steven L. *"Planning for the Next Decade." Comprehensive Institutional Planning in Two-Year Colleges: An Overview and Conceptual Framework*, Columbus: National Center for Research in Vocational Education, The Ohio State University, 1979.
>
> "Jobs and People in the Eighties." *The Futurist*, April 1980.

The process involved work sessions of the full group of ten participants as well as two small groups of five each. The full group identified societal forces impacting on the two-year college, using the following six areas as a framework for identification:

1. Demographics
2. Technological Advances
3. Economy
4. The Work Place
5. Energy
6. Value Shifts

With the framework as a basis for discussion, the technical panel addressed each major force and identified changes and trends occurring or predicted to occur within that force that would impact on two-year colleges during the 1980s.

Figure 4 contains a summary of each of the six societal force areas and the changes and trends identified by the technical panel that would affect two-year colleges in the next decade.

FIGURE 4

Identification of Societal Forces Impacting on the Two-Year College

Demographics. Demographic changes and trends affecting two-year colleges center around a more diverse composition of the population with a shift in the representation of age groups. Specific changes and trends included the following:

1. The population of the future will be more diverse with increasing numbers of minorities and increasing numbers of refugees and other international groups.
2. A major age shift in the population will reflect (a) decreasing numbers of persons in the 18-23 year-old age group, and (b) increasing numbers of persons in the 25-45 year-old age group. This age shift will affect school enrollments as well as create an older work force.
3. The population will become more mobile in nature.
4. The changing work force will reflect increasing numbers of women and older workers, and higher unemployment.
5. High illiteracy will continue to plague the population, and two-year colleges will have to face the question of whether or not they should serve youth more extensively.
6. The nature of business and industry will change which will cause persons to experience several job changes in a lifetime.
7. There will be increasing numbers of single parent/person households.
8. The practice of deinstitutionalization will cause greater numbers of special individuals such as the incarcerated and the mentally retarded to be functioning in society.

FIGURE 4 (continued)

Technological Advances. Technological advances will be great in number and varied in nature. Technological advances will affect the work place and the educational system as well as the home. Changes and trends resulting from technological advances include the following:

1. There is a trend toward more human resource development. Some training needs affecting human resource development include technology transfer, the use of robots, computer literacy, and the general need for helping individuals cope with technological changes.

2. There will be an increasing concern for the utilization of appropriate technology.

3. There will be an increase in the use of telecommunications.

4. The number of cottage and home-based industries will increase.

5. Small businesses will need to be able to use technology appropriate for their needs and size.

6. Education will be affected by technological advances in several ways, for example: (a) new instructional media, (b) electronic home-based education as well as other educational delivery systems, and (c) institutional improvement in the use of technology and technology assessment.

7. There will be an increasing concern for identifying research and development needs.

FIGURE 4 (continued)

Economy. The economy in the next decade will continue to be complex and unpredictable. Inflation and unemployment will continue to cause concern. Some of the major changes and trends in the economy identified include the following:

1. Unemployment and underemployment will increase as worker productivity continues to decline.
2. Inflation and recession will continue to be problems as reflected by (a) the declining tax dollar, (b) the decreasing availability of funds, (c) the decreasing individual spending of dollars for education, and (d) the difficulty in obtaining student loans.
3. Communities will need to react to the relocation, expansion, and retention of business and industry.
4. There will continue to be a shortage of skilled workers and competition for acquiring these workers will be intense.
5. There will be an overall tightening of funds for education and social services.
6. A shift from a production to service economy will affect jobs and job training.
7. International effects will be felt as there will be more importing of foreign industries, "planted" work forces, and a growing foreign ownership of business, industry, and agriculture.

FIGURE 4 (continued)

The Work Place. Changes in the work place will be affected by the needs and wants of business and industry and by the increasingly different needs and wants of workers. Changes in worker attitudes and needs will greatly impinge on the work place. Changes and trends identified include the following:

1. There will be an increasing concern for the ability of industry to handle new technology as well as provide their own training.

2. Increasing and changing governmental regulations will continue to impact on the work place.

3. There will be a trend toward increasing unionism.

4. The need for human resource data in regard to (a) oversupply, (b) undersupply, and (c) maldistribution of workers will continue.

5. Declining worker productivity and output will persist.

6. The concern for the quality of work life will continue as worker needs in regard to the following are addressed:

    a. Underutilization
    b. Dissatisfaction
    c. Participatory management
    d. Re-entry/retraining availability
    e. Mid-career changes
    f. Individual job choice as affected by monetary rewards
    g. Increasing desire for fringe benefits
    h. Alternative work schedules such as job sharing, and part-time jobs as affected by women in the work force and changes in the retirement laws

7. There will be increasing numbers of women and men in nontraditional jobs.

FIGURE 4 (continued)

Energy. The energy problem will continue and will cause changes to take place in the work place as well as in our personal lives. Specific changes and trends include the following:

1. Energy will increasingly be viewed as a political, international issue.
2. Energy changes will create new technologies as well as more appropriate architectural structures.
3. Energy changes will cause a need for upgrading and updating in jobs.
4. Changes in life styles and attitudes will take place due to the energy problem.
5. Consumers will be faced with increasing utility costs.
6. The energy problem will affect education in general ways, some of which include: (a) programming methodology and scheduling changes, (b) new technological curricula, (c) nontraditional educational delivery systems, and (d) the cost of commuting.
7. The energy problem will create a need to identify meaningful research and development needs.

FIGURE 4 (continued)

Value Shifts. Individual and societal values will alter as changes take place in the family, work, education, and the environment. Changes and trends identified include the following:

1. The family structure will change as single parent/person households increase.

2. The changing roles of women and men will continue to cause value shifts.

3. Worker values will be modified based on the following changes and needs:

    a. Greater worker participation in institutional life
    b. Worker changes in career aspirations and job satisfaction
    c. Persons placing work secondary in importance as a part of one's life
    d. Changes in work time to fit worker life styles
    e. Increasing "moonlighting" and part-time jobs for workers

4. Education will be affected by the following:

    a. Conflicting societal expectations of the role and value of education
    b. The changing roles and responsibilities of two- and four-year colleges
    c. The need for management/supervisory retraining to work with employees having different value systems
    d. The belief and need for lifelong learning

5. Society will continue to search for ways to conserve resources and care for the environment.

Needs Identification

In small groups, the workshop members discussed good institutional responses to these changes in society. This made clear the difference between the current state of the art and the kinds of institutional responses needed. From these perceived gaps the participants were able to focus in on priority needs.

As the identification process progressed, the identified needs fell into a matrix showing on the vertical axis major areas of institutional response (where the needs were within the institution), and on the other axis three critical areas of need (energy, diverse populations, and technological advances). The listings therein identify specific priority needs. This needs matrix is found in figure 5.

From these identified needs the participants developed a list of important research and development topics for postsecondary occupational education. (See figure 6.)

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
1. STAFF/PERSONNEL DEVELOPMENT	a. increase knowledge and awareness b. train faculty to teach programs c. develop competencies for energy conservation	a. develop awareness and sensitivity of handicapped, disadvantaged, minorities, aged, adult, women, functional illiterate, incarcerated, mobile, ethnic, unemployed youth, international populations b. develop competencies for serving diverse populations	a. update on changes in business and industry b. develop staff for new technologies c. develop competencies for using new instructional technologies
2. CURRICULUM/ PROGRAM DEVELOPMENT	a. develop new courses and programs b. integrate concepts in current programs c. evaluate programs	a. provide special programs b. modify programs c. provide basic skills programs d. evaluate programs	a. provide new courses b. integrate concepts in current programs c. evaluate programs
3. SUPPORT SERVICES	a. promote energy conservation b. recruit students c. provide job development and placement	a. provide career life planning, career exploration, etc. b. provide financial aid for all types of students c. provide job placement services d. provide outreach services e. provide child care f. provide advising/counseling for all types of students g. provide health services h. provide information on career-related organizations i. provide information on leisure-related organizations j. provide leadership opportunities k. provide flexibility in delivering services	a. provide for studying the recruiting of new students b. provide job development and job placement

(continued)

FIGURE 5

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS (continued)

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
3. SUPPORT SERVICES (continued)		l. provide admissions/registration flexibility m. provide assistance in meeting survival needs (food, books, library, counseling, etc.) for all hours such as evenings, weekends n. provide tutors—learning resource centers o. provide information on marketing/ recruitment	
4. LINKAGES/ ARTICULATION	a. develop active advisory committees b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community-based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal) c. utilize professional organizations d. utilize community resources	a. develop active advisory committees b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community-based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal) c. utilize professional organizations d. utilize community resources	a. develop active advisory committees b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community-based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal) c. utilize professional organizations d. utilize community resources

(continued)

FIGURE 5 (continued)

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS (continued)

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
5. PLANNING/ ASSESSMENT	a. gather and analyze data	a. gather and analyze data	a. gather and analyze data
	b. clarify/revise mission, goals	b. clarify/revise mission, goals	b. clarify/revise mission, goals
	c. provide for effective decision making and future planning	c. provide for effective decision making and future planning	c. provide for effective decision making and future planning
	d. evaluate	d. evaluate	d. evaluate
6. INSTRUCTIONAL TECHNOLOGY/ DELIVERY SYSTEMS	a. develop competency-based education	a. develop competency-based education	a. develop competency-based education
	b. provide for mastery learning (nontime based)	b. provide for mastery learning (nontime based)	b. provide for mastery learning (nontime based)
	c. develop nonpunitive student evaluation	c. develop nonpunitive student evaluation	c. develop nonpunitive student evaluation
	d. provide credit for nontraditional learning	d. provide credit for nontraditional learning	d. provide credit for nontraditional learning
	e. develop uniform credit for adult occupational education	e. develop uniform credit for adult occupational education	e. develop uniform credit for adult occupational education
	f. utilize telecommunications	f. utilize telecommunications	f. utilize telecommunications
	g. provide for computer-assisted instruction	g. provide for computer-assisted instruction	g. provide for computer-assisted instruction
	h. utilize off-campus community locations	h. utilize off-campus community locations	h. utilize off-campus community locations
7. FISCAL/ ADMINISTRATIVE SERVICES	a. revise and develop new policies and procedures	a. revise and develop new policies and procedures	a. revise and develop new policies and procedures
	b. study cost effectiveness	b. study cost effectiveness	b. study cost effectiveness
	c. reallocate resources	c. reallocate resources	c. reallocate resources
	d. review leadership styles	d. review leadership styles	d. review leadership styles
		e. study legal implications	e. study legal implications

FIGURE 5 (continued)

FIGURE 6

RESEARCH AND DEVELOPMENT TOPICS FOR POSTSECONDARY OCCUPATIONAL EDUCATION

Staff/Personnel Development

1. Models of human resource development within postsecondary occupational education
2. Models of adult development stages and effective instructional strategies for meeting needs of adults
3. Models of developing teacher competency for the use of new educational technology
4. Research and models to develop awareness, sensitivity, and instructional strategies for staff working with diverse populations

Curriculum/Program Development

1. Research through (a) state of the art of programs and effectiveness, (b) methodologies for program development, (c) models for the identification of competencies, and (d) models of effective programs and institutional delivery systems for meeting the needs of special populations, which include the following:

Adults	Ethnic groups	Incarcerated	Mobile
Aged	Functional illiterate	International populations	Unemployed youth and adults
Disadvantaged	Handicapped	Minorities	Women

2. Research and models for integrating basic skills into existing and new vocational programs
3. Research and models for integrating energy concepts into existing curricula
4. Research and models for new curricula for alternative energy systems
5. Research and models for computer literacy
6. Develop a clearinghouse of information on what has been done to date in energy education
7. Develop a clearinghouse on postsecondary education research
8. Develop a clearinghouse on postsecondary curriculums

Support Services

1. Research and models for marketing strategies to recruit students for unique or new programs or courses
2. Research and models for interfacing existing agencies' support services (community referral and social service agencies) necessary to enable diverse populations to achieve their educational goals

Linkages/Articulation

1. Research, models, and state-of-the-art studies dealing with linkages and interfacing of education with business, industry, labor, and government

(continued)

FIGURE 6 (continued)

Linkages/Articulation (continued)

2. Research and models for improving occupational postsecondary institutions interfacing with business and industry

3. Research and models for vertical and horizontal articulation among the following:
    a. Secondary institutions
    b. Postsecondary institutions
    c. Colleges and universities
    d. Proprietory schools
    e. Business, industry, and labor
    f. Government training programs
    g. CETA

4. Descriptions of initiatives by industry toward standards that have implications for educational programs and certification

Planning/Assessment

1. Models of data gathering and analysis (internal and external)

2. Models of trend analysis and impact analysis

3. Models that describe the derivation of mission and institutional goals

4. Models for determining institutional impact on the community

Instructional Technology Delivery Systems

1. Research and models on effectiveness of nontraditional strategies, such as:
    a. Competency-based education, including individualized instruction and open entry-open exit
    b. Mastery learning (nontime based)
    c. Nonpunitive student evaluation
    d. Credit for nontraditional learning
    e. Uniform credit system for adult occupational education
    f. Telecommunications utilization
    g. Computer-assisted instruction
    h. Off-campus community locations for instruction

Fiscal/Administrative Services

1. Research and models for coping with diminishing resources for the acquisition of (a) facilities, (b) equipment, (c) materials, and (d) personnel

APPENDIX B

SURVEY LETTERS AND QUESTIONNAIRE

LIST OF STATE ADMINISTRATORS

LETTER TO STATE ADMINISTRATORS

OSU

The Ohio State University

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION

1960 Kenny Road
Columbus, Ohio 43210

Phone: 614—486-3655
Cable: CTVOCEDOSU/Columbus, Ohio

June, 1980

Dear:

We are embarking upon a project at the National Center that should meet a current need of community and technical colleges. With institutions feeling the full force of inflation and diminishing financial resources, it is imperative that colleges maximize resources through cooperative efforts with business, industry, labor, and government.

The National Center, through the combined efforts of its National Postsecondary Alliance and the Postsecondary Occupational Education Project, is seeking to identify exemplary programs of industry cooperating and sharing facilities, equipment, materials, and personnel with postsecondary occupational education for their mutual educational and financial benefit. When I refer to industry, I am speaking about business, industry, labor, and government agencies and organizations. Examples of this would be industry opening up its facilities for training, making labs available, providing equipment and materials, furnishing personnel for specialized training, providing work experience for instructors, personnel exchange programs, etc.

The National Postsecondary Alliance and the Postsecondary Occupational Education Project would appreciate your identifying colleges in your state, and specific programs and practices within those colleges, that exemplify such cooperative efforts with industry. Also, please provide the name of the lead administrator of each college and/or the name of the appropriate contact person. A form for this purpose is enclosed. Make as many copies of it as you need.

When you send us this information, it would also be very helpful if you would write these colleges, telling them you have referred us to them and that they will be hearing from us very soon. We will then write each college requesting them to submit information about their exemplary program on the questionnaire provided. A copy of the questionnaire is enclosed for your information. From the information received, we will develop a resource handbook of models and guidelines to help postsecondary institutions expand their working relationships with industry to meet the problems of scarce resources.

We appreciate your help in this endeavor and look forward to your early reply.

Sincerely,

Catharine P. Warmbrod
Research Specialist
Postsecondary Program

CPW/cg

Enclosures

State of _____

Please fill in the following needed information to enable us to contact postsecondary schools with exemplary programs of maximizing resources through cooperative efforts with business, industry, labor, and government. Particular focus is on their sharing of facilities, equipment, materials, and personnel. *Please return to us by June 1.*

1. _____ _____

Name of Institution — Lead administrator or appropriate contact person

_____ _____

Street Address — Title of contact person

_____ _____

City State Zip — (Area code) Telephone Number

The above institution has an exemplary program(s) in: (Check as many as apply.)

- ☐ sharing of facilities
- ☐ sharing of equipment
- ☐ sharing of materials
- ☐ sharing of personnel

Briefly describe exemplary program:

(Make as many copies of this form as needed.)

_____

Name of person filling out form

_____

Title

LETTER TO COLLEGE ADMINISTRATORS

OSU

The Ohio State University

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

1960 Kenny Road
Columbus, Ohio 43210

Phone: 614-486-3655
Cable: CTVOCEDOSU/Columbus, Ohio

July, 1980

Dear:

With community colleges, technical colleges and other postsecondary institutions feeling the effects of inflation and diminishing financial resources, it is imperative that colleges maximize resources through cooperative efforts with business, industry, labor, and government. Therefore, the National Center for Research in Vocational Education is conducting a project to help postsecondary institutions in their cooperative efforts with business, industry, labor, and government.

The National Center, through the combined efforts of its National Postsecondary Alliance and the Postsecondary Occupational Education Project, is seeking to identify exemplary programs of industry cooperating and sharing facilities, equipment, materials, and personnel with postsecondary occupational education for their mutual educational and financial benefit. When I refer to industry, I am speaking about business, industry, labor, and government agencies and organizations.

Examples of this would be industry opening up its facilities for training, making labs available, providing equipment and materials, furnishing personnel for specialized training, providing work experience for instructors, personnel exchange programs, etc.

State administrators of community, junior, and technical colleges, as well as other persons, were contacted in June 1980 and asked to identify postsecondary institutions in their state where exemplary models and guidelines are in operation for coping with diminishing resources by mutual sharing with industry.

The outcome of this project is to develop a handbook describing exemplary programs of industry cooperating and sharing facilities, equipment, materials, and personnel with postsecondary occupational education institutions for their mutual educational and financial

benefits. However, in order to develop this handbook, we need your help in gathering information. Will you (or someone you designate) share your ideas and experiences with us so that personnel in other institutions can plan and implement similar joint efforts. We believe it is essential to share appropriate and accurate information about your institution with other schools. Therefore, the survey instrument is comprehensive.

As the principal administrator of occupational education, will you distribute the survey instrument(s) to the appropriate person(s) for completion. Please make any extra copies you feel you need for each exemplary program.

Enclosed is the survey instrument and a self-addressed envelope for your reply. Since we are working on a strict time line, we would appreciate receiving your response by _____.

If you have any questions, please feel free to call me at (614) 486-3655. Thank you for your time and effort in this project. I am looking forward to hearing from you soon.

Sincerely,

Catharine P. Warmbrod
Project Director
Postsecondary Occupational Education

CPW/cg

Enclosures

DESCRIPTION OF EXEMPLARY PRACTICE OF INDUSTRY*-POSTSECONDARY EDUCATION COOPERATION

1. Name of activity: _____

_____

2. _____
Name of Institution

_____
Street Address

_____
City State Zip

3. _____
Name of Program/Practice Contact Person

_____
Title

_____
(Area code) Telephone Number

4. This exemplary program is an example of industry* and education sharing: (Check as many as apply.)

- ☐ facilities
- ☐ equipment
- ☐ materials
- ☐ personnel

5. Overview and major features of the cooperative effort:

6. When did the activity start (date)?

* *Industry* is defined as business, industry, labor, and government.

7. WHAT facilities, equipment, materials and/or personnel are being shared by industry and education?

8. HOW are facilities, equipment, materials and/or personnel being shared by industry and education?

9. WHERE are the facilities, equipment, materials and/or personnel being shared by industry and education?

10. What are the implementation requirements and procedures?

11. What is industry contributing?

12. What is the college contributing?

13. What are the financial and educational benefits to industry?

14. What are the financial and educational benefits to the college?

15. What were the critical elements in making this program successful?

Name of person filling out this form

Title

STATE ADMINISTRATORS

ALABAMA
George L. Layton
Assistant Superintendent for Postsecondary Educational Services
817 South Court Street
Montgomery, Alabama 36104
(205) 832-3340

ALASKA
Patrick O'Rourke
Chancellor
Alaska Community Colleges
2221 East Northern Lights Boulevard
No. 137
Anchorage, Alaska 99501
(907) 274-0548

ARIZONA
Russell O. Bloyer
Executive Director
State Board of Directors for Community Colleges of Arizona
1535 West Jefferson
Room 123
Phoenix, Arizona 85007
(602) 271-4813

ARKANSAS
Tom Spencer
Associate Director for Community Colleges
Department of Higher Education
1301 West Seventh Street
Little Rock, Arkansas 72201
(501) 371-1441

CALIFORNIA
Gerald C. Hayward
Chancellor
California Community Colleges
1238 S Street
Sacramento, California 95814
(916) 445-8752

COLORADO
Terrence Tollefson
Director of Community Colleges
State Board for Community Colleges and Occupational Education
205 State Services Building
1525 Sherman Street
Denver, Colorado 80203
(303) 839-3151

CONNECTICUT
Searle F. Charles
Executive Director
Regional Community Colleges
1280 Asylum Avenue
Hartford, Connecticut 06105
(203) 232-4817

Lem Hyde
Director
State Technical Colleges
61 Woodland Avenue
Hartford, Connecticut 06105
(203) 566-3976

DELAWARE
Jack Kotula
President
Delaware Technical and Community Colleges
Box 897
Dover, Delaware 19901
(302) 678-4621

FLORIDA
Lee G. Henderson
Director
Division of Community Colleges
Florida State Department of Education
310 Collins Building
Tallahassee, Florida 32304
(904) 488-1721

Source: 1980 Community, Junior, Technical College Directory (Washington, D.C.: American Association of Community and Junior Colleges, 1980), p. 69.

State Administrators, continued

GEORGIA
Haskin R. Pounds
Assistant Vice Chancellor
University Systems of Georgia
244 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-2213

HAWAII
Dewey H. Kim
Acting Chancellor for Community Colleges
University of Hawaii
244 Dole Street
Honolulu, Hawaii 96822
(808) 941-0906

IDAHO
Milton Small
Executive Director for Higher Education
State Board of Education
650 West State Street
LBJ Building
Room 307
Boise, Idaho 83702
(208) 384-2270

ILLINOIS
Fred L. Wellman
Executive Director
Illinois Community College Board
3085 Stevenson Drive
Springfield, Illinois 62703
(217) 786-6000

INDIANA
George B. Weathersby
Commissioner
Indiana Commission for Higher Education
143 West Market Street
Indianapolis, Indiana 46204
(317) 633-6474

IOWA
William M. Baley
Associate State Superintendent
Area Schools and Career Education Branch
Department of Public Instruction
Grimes State Office Building, Room 203
Des Moines, Iowa 50319
(515) 281-3124

KANSAS
W. A. Rambaugh
Director
Postsecondary Administration
State Department of Education
120 East Tenth Street
Topeka, Kansas 66612
(913) 296-3047

KENTUCKY
Stanley Wall
Vice President for Community Colleges
102 Breckinridge Hall
University of Kentucky
Lexington, Kentucky 40506
(606) 258-9000

LOUISIANA
John E. O'Dowd
Assistant Superintendent for Career Education
Department of Education
Baton Rouge, Louisiana 70804

MAINE
Wayne H. Ross
Director
Higher Education Services
Department of Educational and Cultural Services
Augusta, Maine 04333
(207) 289-2621

Richard M. Knight
Coordinator
Maine Vocational Technical Institute
Augusta, Maine 04333
(207) 289-2621

MARYLAND
Brent M. Johnson
Executive Director
State Board for Community Colleges
Jeffrey Building
16 Francis Street
Annapolis, Maryland 21401
(301) 269-2881

State Administrators, continued

MASSACHUSETTS
John Buckley
Acting President
Massachusetts Board of Regional Community Colleges
470 Atlantic Avenue
Boston, Massachusetts 02110
(617) 727-1260

MICHIGAN
James F. Weber
Director
Higher Education Management Services
Department of Education
P.O. Box 30008
Lansing, Michigan 48909
(517) 373-3820

MINNESOTA
Phillip C. Helland
Chancellor
Minnesota State Junior Colleges
301 Capitol Square Building
St. Paul, Minnesota 55101
(612) 296-3356

MISSISSIPPI
George V. Moody
Director
Division of Junior Colleges
State Department of Education
Box 771
Jackson, Mississippi 39205
(601) 354-6962

MISSOURI
Linda Atkins
Director of Academic Affairs
Department of Higher Education
600 Monroe
Jefferson City, Missouri 65101
(314) 752-2361

MONTANA
William J. Lannan
Coordinator of Community Colleges
33 South Last Chance Gulch
Helena, Montana 59601

NEBRASKA
William Fuller
Executive Director
Coordinating Commission for Postsecondary Education
P.O. Box 95005
301 Centennial Mall South
Lincoln, Nebraska 68509

NEVADA
Jack Davis
District President
University of Nevada Community College System
405 Marsh Avenue
Reno, Nevada 89502

NEW HAMPSHIRE
Charles H. Green
Chief
Postsecondary Division
State Department of Education
163 Loudon Road
Concord, New Hampshire 03301

NEW JERSEY
Edward D. Goldberg
Director
Community College Program
Department of Higher Education
225 West State Street
Trenton, New Jersey 08625
(609) 292-4470

NEW MEXICO
William C. Witter
Assistant Executive Secretary
State Board of Educational Finance
1068 Cerrillos Road
Santa Fe, New Mexico 87503
(505) 827-2115

NEW YORK
Cornelius Robbins
Associate Chancellor for Community College Affairs
State University of New York
State University Plaza
Albany, New York 12246
(518) 473-1849

State Administrators, continued

NORTH CAROLINA
Larry J. Blake
State President
North Carolina Department of Community Colleges
State Board of Education
Raleigh, North Carolina 27611
(919) 733-7051

NORTH DAKOTA
Kenneth E. Raschke
Commissioner
State Board of Higher Education
Bismarck, North Dakota 58501
(701) 224-2060

OHIO
Max J. Lerner
Vice Chancellor for Two-Year Colleges
Ohio Board of Regents
30 East Broad Street
Columbus, Ohio 43215
(614) 466-5810

OKLAHOMA
E. T. Dunlap
Oklahoma State Regents for Higher Education
500 Education Building
State Capitol Complex
Oklahoma City, Oklahoma 73105
(405) 521-2444

OREGON
Robert F. Hamill
Associate Superintendent for Community Colleges
Oregon Board of Education
942 Lancaster Drive, N.E.
Salem, Oregon 97310
(503) 378-8549

PENNSYLVANIA
Joseph E. Bruno
Coordinator of Community Colleges
Pennsylvania Department of Education
Box 911
Harrisburg, Pennsylvania 17126
(717) 787-1790

RHODE ISLAND
Edward J. Liston
President
State System of Junior Colleges
President of Rhode Island Junior College
400 East Avenue
Warwick, Rhode Island 02886
(401) 825-2188

SOUTH CAROLINA
G. William Dudley, Jr.
Executive Director
State Board for Technical and Comprehensive Education
1429 Senate Street
Columbia, South Carolina 29201
(803) 758-3171

Howard Boozer
Executive Director
South Carolina Commission on Higher Education
Rutledge Building
1429 Senate Street
Columbia, South Carolina 29201
(803) 758-2407

SOUTH DAKOTA
Gordon Foster
Associate Commissioner for Academic Affairs
Board of Regents
State Capitol
Pierre, South Dakota 57501
(605) 224-3455

TENNESSEE
Roy S. Nicks
Chancellor
The State University and Community College System
1161 Murfreesboro Road
Nashville, Tennessee 37211
(615) 741-4821

TEXAS
David T. Kelly
Head
Division of Community Colleges and Continuing Education
Coordinating Board
Texas College and University System
P.O. Box 12788
Capitol Station, Texas 78711
(512) 475-3413

State Administrators, continued

UTAH
Don A. Carpenter
Assistant Director of Academic Affairs
Utah System of Higher Education
No. 204
Salt Lake City, Utah 84102
(801) 533-5617

VERMONT
Robert B. Vail
Director of Professional Services
State Department of Education
Montpelier, Vermont 05602

VIRGINIA
Richard J. Ernst
Acting Chancellor
Virginia Community College System
P.O. Box 1558
Richmond, Virginia 23219
(804) 786-2231

WASHINGTON
John Terrey
Executive Director
State Board for Community College Education
319 7th Avenue (FF-11)
Olympia, Washington 98504
(206) 753-3656

WEST VIRGINIA
Ben Morton
Chancellor
West Virginia Board of Regents
950 Kanawha Boulevard East
Charleston, West Virginia 25301
(304) 348-2101

WISCONSIN
Robert Sorenson
State Director
Vocational-Technical and Adult Education
4802 Sheboygan Avenue
Madison, Wisconsin 53702
(608) 266-1770

WYOMING
Russell A. Hansen
Executive Secretary
Community College Commission
1720 Carey Avenue
Boyd Building
Cheyenne, Wyoming 82002
(307) 777-7763

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